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ABSTRACT

Papers generated by and for a conference on articulation between various types of postsecondary institutions and between institutions and the world of work are presented in this monograph. (1) Articulation: A Multipersonal Affair, (2) Interinstitutional Efforts and Cooperation in Meeting Postsecondary Vocational Education Needs, (3) Articulation in an Urban Setting, (4) Is Articulation for Real? (5) Articulation Through Community Services, (6) The Role of Competency-Based Instruction in Teacher Preparation, (7) The Role of Follow-up Studies in Articulation, (8) An Occupational Assessment Model: Instructional Accountability from Three Angles, (9) Assessment and Credit Granting for Out-of-School Learning, (10) Improving Articulation in Vocational and Technical Education: Uses of Evaluative Research, (11) Problems Related Articulation Between Associate Degree and Baccalaureate Degree Nursing Programs, and (12) Competency-Based Education: A Dissection. An evaluation of the conference is presented in the final section. The appendixes contain the conference evaluation questionnaire, conference format and speakers, registration list, and advisory committee. (HD)

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The Seventh Annual Pennsylvania Conference on Postsecondary Occupational Education: Articulation in Vocational Education

Angelo C. Gilli, Sr.

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Center for the Study of
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The Pennsylvania State University

University Park, Pennsylvania

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FOREWORD

Three years ago, when the Fourth Annual Conference on Postsecondary Occuapational Education dealt with the problem, articulation was of pressing concern. It is still of pressing concern. The demand for life-long learning has become stronger in the last three years and so has the demand to better meet manpower needs. Articulation between various types of postsecondary institutions and between the institutions and the world of work is necessary if these demands are to be met. Thus, the Annual Conference on Postsecondary Occupational Education again took up the concern of articulation.

We believe the papers generated for and by this conference and contained in this volume of the proceedings are most useful to those who are concerned with postsecondary occupational education.

G. Lester Anderson
Director, Center for the
Study of Higher Education

PREFACE

The papers presented in this monograph have evolved from the Seventh Annual Pennsylvania Conference on Postsecondary Occupational Education. Each year, participants from the previous conference are asked to suggest subjects for the theme for the next conference. With this input from participants of the sixth annual event, the broad theme of "articulation" was selected for this year.

As is our usual practice, several papers from recognized educators in the field in matters related to the theme were solicited. Professor Herbert S. Eisenstein prepared a cogent and very provoking paper in which competency-based education is critically examined. This paper, entitled "Competency-Based Education: A Dissection" should be read by anyone interested in the subject. The papers prepared by Ms. Lauretta Cole, and Professors Jon Hunt, Curtis R. Finch, Samuel D. Morgan, and Maxine Enderlein further contribute to a well-rounded treatment of the theme.

The conference was again evaluated by utilization of a questionnaire. The results of this effort are presented in the final section by Edgar Farmer.

Thanks is offered to the advisory committee (see Appendix D) and to the several graduate assistants who helped to keep the conference flowing smoothly. These include Edgar Farmer, Jeannine Fan, Kirby Young, Kurt Eschenmann, Martha Duckett, and Lauretta Cole. A note of special thanks to Mrs. Edith Johnson and Miss Kathy Spicer, who assisted throughout the planning and conduct of the conference and in preparation of the monograph. Lastly, acknowledgment and appreciation for

financial support of the annual event is given to Penn State's Center for the Study of Higher Education, to their editor Janet Novotny Bacon, and to the Department of Vocational Education, which received funding from the Pennsylvania Bureau of Vocational Education.

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Professor of Vocational and
Higher Education
and
Associate, Center for the Study
of Higher Education

ARTICULATION: A MULTIPERSONAL AFFAIR

Angelo C. Gilli, Sr.
Professor of Vocational and Higher Education
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The Pennsylvania State University

Articulation, although overused and misused in recent times, is one of the central problems in vocational education. It is widely recognized that programs, courses, and more exotic activities conducted within the broad rubric of vocational education are means whereby people seek to find their way to some desired goal. Therefore, vocational education is a means of articulation between people and employment.

Who are these persons? What are they seeking to achieve? How are their needs being addressed by the professionals who purport to serve them?

As we respond to these broad questions, our discussion will evolve into a description of a new approach to the utilization of vocational education for connecting people needs and concerns to the world of work.

Who are the persons seeking the services of vocational education?

One always runs the risk of stereotyping when trying to describe people by groups, and that hazard exists here. Broadly speaking, several of the major groups that vocational education seeks to serve are:

1. Postretirement career seekers.
2. Middle-aged career changers.
3. Neophyte career seekers, who include adult women as well as adolescents.

4. Special needs individuals, including the handicapped, disadvantaged, racial minorities, poverty types, and offenders.

Even a casual inspection of the above categorization reveals overlapping in virtually every possible dimension, including age, sex, socioeconomic, intellective, and ethnic considerations. Therefore, such a classification should be viewed with caution and as merely a convenient approach to identification of individuals in need of vocational education services. The array of demands falls within a spectrum that ranges from those common to virtually everyone seeking services within the rubric of vocational education, to the unique needs of a small group or even one person. If vocational education is to provide personalized services--a highly desirable objective in the opinion of this writer--the people must be identified and served primarily in terms of their interests, capabilities, and needs.

Ideally, such a quest would change the orientation of institutions such as community-junior colleges and area vocational-technical schools. Traditionally, such institutions establish certain well-fixed types of vocational offerings (mostly in the form of courses and programs) and "bend" the incoming students' capabilities and interests into the existing offerings. Only under highly unusual circumstances have schools set up and conducted vocational services oriented to special student needs and interests. Most often, such concerns have been in response to certain needs of business and industry, as perceived by vocational educators and the decision makers. While such response was clearly stated as one of the chief roles of vocational education back in the early days of federal financial intervention for vocational education (such as the Smith-Hughes Act of 1917), more recent federal legislation expresses greater concern with human development in the broad sense and career development particularly. The expressed intentions of the Vocational Amendments of 1968 are clear in this regard. They include:

> . . . [authorization of] . . . Federal grants to states to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education . . . so that persons of all ages in all communities of the state--those in high school, those who have completed or discontinued their formal education . . . to upgrade their skills or learn new ones, those with special educational handicaps, and those in postsecondary schools--will have ready access to vocational training . . . of high quality . . . realistic [in nature] . . . and which is suited to their needs, interests, and ability to benefit from such training. (Paragraph 1, Part A of Title I of the Vocational Amendments of 1968--Public Law 90-576.)

But community-junior colleges and area-vocational schools still focus upon the notion that an individual should be "fitted" into a prescribed program. It is only fair to add, however, that the pattern for this kind of approach (admitting people into curriculums developed beforehand) was established earlier and is being continued by the educational system as a whole. The community-junior colleges and area vocational schools, being staffed and administered by educators who are directly influenced by the broad sector of public education, tended to incorporate the general model. This model is dysfunctional in many instances, especially for vocational education.

Two of the more important societal changes that have altered the make-up of the vocational school clientele are (1) increased directiveness in certain federal legislation regarding the funding for vocational education and (2) an increased momentum toward universal education.

Federal intervention, through various civil rights legislation, the age discrimination in Employment Act of 1967, and several funding acts with stipulations regarding the direction of using such monies (i.e., categorical funding) have had a substantial effect. There is no question that the population served by vocational education has expanded not only in sheer numbers but also in the types of people served. This phenomenon appears to go hand in hand with the increasing numbers of people who are seeking and gaining more years of formal education. The presence of more people in educational institutions at any one time, and the increase in number of years spent in school behooves the educational system to change (or enlarge) its objectives to accommodate the new set of circumstances.

The educational system, especially with its increased universality, needs to be viewed as a public service that ought to be reactive to continuing perceptions of shortcomings in its delivery mechanisms. Applying this statement to vocational education, we ought to continue to seek to better serve *people* and relegate a second (but still important) place to the business and industrial community. It seems that an excellent interface between vocational education and society at large would be through research, especially if such research were made to aim at the following two broad concerns:

1. To more intelligently identify problems confronting persons in their quests to achieve richer lives through vocational education.
2. To seek solutions to the identifiable problems that will lead to an improved "state of the art" in vocational education. (Gilli, 1976a)

What are enrollees in vocational education seeking to achieve?

At one time, the response to this query would have simply been "a job." But the literature indicates that job satisfaction is now a critical issue (Reich 1970; Gillie 1973a; O'Toole, et al. 1973). This concept incorporates factors dealing with work environment, prior vocational schooling, and the interfacing of these components. Clearly lacking, in the view of those who subscribe to the notion that people concerns come first and the business industrial community comes second, is a new articulation model.

How can the concerns of individuals and the work-production needs of the world of work be made more congruent?

The broad response to this large question, which really is the main theme of this paper, is a system that starts with people concerns and flows toward meeting them within the world of work. Figure 1 displays such a paradigm for articulating people to the world of work and is the basis for the following discussion (see also Gillie, 1973b; and Gilli, 1976b).

The paradigm has six components. Component one, recruitment sources, would consist of the special interest groups listed in a preceding paragraph. Component two, exploration, would include counseling, testing and diagnosis, and career sampling for each person who is recruited. The intensity and breadth of the exploration process would be largely determined by the extent to which an individual requires such a service. For example, a recently retired school teacher may need hardly more than a brief counseling session, whereas certain adolescents would proceed through a gamut of services leading to the optimum career choice (component three).

Up to this point of our discussion, the model in Figure 1 is not too unlike what goes on in some area vocational schools and community-junior colleges at the present time. At this juncture the model proposes actions leading to job placement (component four), a considerable departure from what usually occurs. In component four, interviews and conferences between the student and potential employers would be established under the auspices of and as a normal service of the school. These would bring together the potential employee and employer, so they could make an assessment of one another. The worker-to-be would be given the opportunity to make some judgements about whether that job (and employer) is suitable. The employer, at the same time, would assess the individual's potential for the job in question. This variety of interview is a common practice; the difference proposed here is in its timing. Up to now, such interviews were conducted after the candidate had received specific training; in this model *specific training is withheld until the applicant has been hired.*

This approach places the advantage on the side of the individual, who would not be at the mercy of the employer as he/she presently is by virtue of committing many months or even years to specific skill training. Only after the employer contracted with the individual for a specific job would specific training take place. This mutual commitment between employee and employer is philosophically more attractive than the traditional approach and is especially suitable for meeting the special concerns of individuals.

After the contract has been drawn and accepted by both parties, then the employer has the responsibility to indicate: (a) the skills that must be acquired for successful job performance; (b) the skills that are best developed on the job and those that should be taught in the school environment. Then, in component five, the school provides its share of the identified training and skill development. Finally (component six), the person reports to his new employment.

The proposed model, in the opinion of this writer, is an optimal articulation mechanism between people's needs and interests and employment within the limiting realities of the work community. The heart of the model is a commitment from an employer before an individual embarks on a specific training sequence. This is the epitome of articulation in vocational education.

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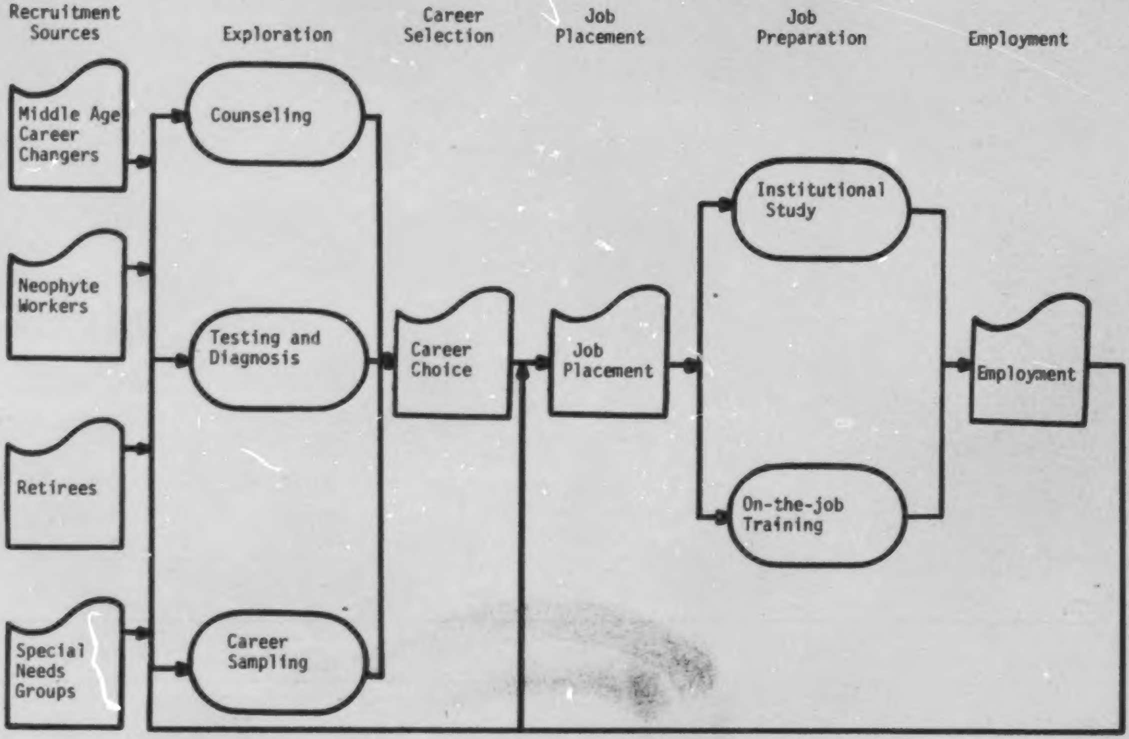
Recruitment Sources
Exploration
Career Selection
Job Placement
Job Preparation
Employment
Middle Age Career Changers
Neophyte Workers
Retirees
Special Needs Groups
Counseling
Testing and Diagnosis
Career Sampling
Career Choice
Job Placement
Institutional Study
On-the-job Training
Employment

FIGURE 1

PARADIGM OF ARTICULATION BETWEEN PERSONS AND THE WORLD OF WORK

INTERINSTITUTIONAL EFFORTS AND COOPERATION IN MEETING POSTSECONDARY VOCATIONAL EDUCATION NEEDS

Robert L. Prater
Dean, School of Technology
Texas Southern University

Dr. Gilli, other members of the host institution, fellow educators, I find it a very stimulating challenge to have the opportunity to participate in this, the Seventh Annual Conference on Postsecondary Occupational Education.

I do enjoy being able to wear the title "consultant" on this occasion. However, you may recall that a consultant has been defined as "one who is more than 50 miles from home and has a briefcase." Therefore, I fit the definition quite well. It is common knowledge that one has to be away from his home base to get someone to listen to what he has to say. On an occasion like this, we are also sometimes referred to as a "specialist." However, the latest definition of a specialist--one who learns more and more about less and less until pretty soon he knows everything about nothing--does not make me very desirous of that label.

I would like to personally commend Dr. Gilli and his associates for their leadership in organizing and directing this Postsecondary Occupational Conference. I have received copies of most of the proceedings and always find them quite stimulating, refreshing, and informative.

In spite of our misgivings, at times, about conferences such as this, I believe that they do provide the kinds of opportunities that are needed to exchange thoughts and ideas and to prepare for the massive task that lies ahead in the education and training of our fellow citizens. It has been estimated that our greatest growth area will be nontraditional postsecondary education and that to meet this demand we will need 290,000 new college faculty members between 1975 and 1985.

I know that you expect most of us who will be appearing before you to give you the usual thing about "the varied and difficult challenge of our times." I am not at all sure if we are living in a more difficult time than in the past; but it is certainly a different kind of challenge, one which, among other things, is calling upon us to reorder priorities and question the long-range implications of some of our technology. We are called upon to view ourselves as being a part of "the learning society."

THE NEED AND IMPORTANCE OF INTERINSTITUTIONAL EFFORTS

Any attempt to respond to the question of occupational education needs brings one to grips with the question of trends in the labor market and its forecast of needs. We are, therefore, cautioned to examine and reexamine the trends and statistics. Some of these trends and statistics are as follows:

1. Professional and technical workers will increase by 49% during 1972 and 1985.
2. Half of the nation's workers will be in white collar jobs by 1985.
3. The higher the education level, the greater the income.
4. Graduates of associate degree programs do indeed continue their education.

In addition to the message portrayed by the labor market data, other statistical data remind us that our educational concerns must permeate and extend beyond the boundaries of whatever educational structure or types of institutions are represented.

One of the reports reviewed during the preparation of this paper contained some very candid and succinct comments relevant to the theme of this conference. Some of them are as follows:

> Programs must have mobility and flexibility of opportunity rather than be structured in the classic rigidity of program form.
>
> Coordinated planning for career education, involving all institutions and agencies of the area to be served, is extremely important.
>
> Only through working together for a total concept of career education, from the elementary school to the University will educators truly meet the challenge of today's world.[1]

THE EDUCATION OF MINORITIES

Suffice it to say that the goals to be achieved through interinstitutional efforts and cooperation will be of direct benefit to a significant number and percent of the minority population. Assuming that one of the goals of such effort is the improvement of articulation between the two- and four-year institutions, the benefits to this segment of the population will be manifold.

Needless to say, we have the responsibility of assuring that students are not destined for a dead-end trail and that there is, indeed, a "next-step" when, and if, the student desires to pursue it.

During recent years there has been a considerable anti-college campaign directed toward young people. In my opinion, some of this was a disservice to certain communities, especially the minorities and the disadvantaged. I regard it a disservice because in these communities there is still a considerable educational gap, a gap that cannot be afforded since educational attainment and economic achievement are so closely related and, from a total perspective, positively correlated.

---

[1] American Vocational Association, "The Role of Post Secondary Occupational Education" (Washington, D.C., 1972), pp. 27-29.

The following statistics underline some of my feelings and attitudes regarding this issue. These findings were reported in a recently released Ford Foundation sponsored report:

> In 1970 blacks were 6.9 percent of undergraduate enrollment and 11.1 percent of the national population; Oriental Americans were 1.0 percent of enrollment and .8 percent of the national population; and the Spanish surnamed were 2.1 percent of the enrollment, and 4.6 percent of the national population.
>
> Data on American Indians show wide discrepancies. Information from the Office for Civil Rights, for example, show that in some states there are more American Indians enrolled in college than Indians listed in the college age groups by the U. S. Census. According to the Office for Civil Rights, American Indian enrollment in 1970 was .5 percent of total college enrollment; the U. S. Census reports only 0.23 percent. The discrepancy is about 100 percent.
>
> Of bachelors degrees earned in 1970, whites accounted for 92.1 percent, blacks 5.2 percent, Japanese and Chinese Americans 1.0 percent, and the Spanish surnamed 1.2 percent.
>
> Minority enrollment nationwide is heavily concentrated in lower divisions of all institutions and in community colleges (73.6 percent of all university students were in that category in 1970 compared with 65.3 percent for whites; upper division representation was 26.4 percent for minorities and 34.7 percent for whites). Many of

the minority students in community colleges are in terminal occupational programs.[2]

What we are talking about is an educational structure that will enhance the continuing education process and will permit a person to move through the system if he so desires because there are definite economic and social gains for so doing. For example, the Bureau of Labor Statistics recently reported the following data relating to employment status and educational attainment as follows:

Educational Attainment	*Jobless Rate*
4 or more years of college	2.9%
1 to 3 years of college	6.9%
8 years of schooling	12.0%
High school dropouts	15.2%

COOPERATIVE EDUCATION AS A MECHANISM/VEHICLE FOR COOPERATION

One of the most rapidly expanding educational activities that I am aware of is the cooperative education program. Cooperative education is defined as "the integration of classroom theory with practical experience under which students have specific periods of attendance at the college and specific periods of employment." Although its formal beginnings date back to 1906 at the University of Cincinnati, the largest growth has taken place within the last 10 years. There were only about 70 institutions involved from 1906 up to 1962. However, since 1963 the number of institutions with cooperative education programs in operation has reached more than 700.

This movement has brought together a considerable number of four-year and two-year institutions in consortia arrangements for the purpose of planning and implementing cooperative education programs. Examples of these are in North Carolina, Mississippi, Texas, Florida, etc.

---

[2] American Council on Education, *Higher Education and National Affairs* Vol. 22.

The Cooperative Education Division of HEW is giving considerable encouragement to this movement through federal funding. Junior colleges received approximatley 32 percent of the grants awarded in 1974-75. However, the report did not list any two-year institutions in Pennsylvania as recipients of federal funds in 1974-75 (HEW, Cooperative Education Awards F-Y 1970-74).

Among the several recommendations of a year-long study by the National Institute of Education was "that opportunities for unpaid work experience should be provided for all students in all major programs at both the secondary and postsecondary level."[3] When properly structured, the cooperative education plan can be used as an effective mechanism for the preparation of occupational teachers.

According to the information which I have, some cooperative education activities exist in the two-year postsecondary institutions in the state of Pennsylvania. One of the directories which I reviewed listed the following: Allegheny County, Pierce Junior College, Reading Area Community College, and Robert Morris College. By this date, I am sure other two-year Pennsylvania colleges are in the process of implementing programs.

Oddly enough, at least three activities/offices which can be helpful for those who wish to explore the feasibility of the cooperative education plan are concentrated in the State of Pennsylvania. They are: Drexel University, the official home office of the Cooperative Education Association, with Mr. Stewart Collins serving as Executive Secretary; Temple University, one of fifteen federally-funded cooperative education training centers, with Mr. Charles Hulet as training director (he has listed several training sessions for 1975-76); and the University of Pittsburgh, one of five federally funded research projects designed to determine cost-benefit of cooperative education to women and minority groups, with Dr. Edward Sussna as the director.

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[3] National Institute of Education, *Bridging the Gap: A Study of Education to Work-Linkages* (Princeton, N.J.: College Board Publication).

For those who might be interested and are not aware of the federally-funded cooperative education program, I would be pleased to provide additional information. The program is funded through Title IV-D, Higher Education Act of 1965, as amended.

There is an urgent need for us to incorporate the industrial community into our educational system in a more complete and structured fashion and, thereby, when we speak of interinstitutional efforts, we should not only be speaking of efforts between educational institutions but of efforts between education institutions and industry and vice versa. The co-op plan provides an excellent mechanism for a formalized involvement between education and industry. During the past seven years, for example, our occupational education program has had the participation of more than 68 technology oriented corporations.

SOME REFERENCES TO TEXAS AND TEXAS SOUTHERN UNIVERSITY

I must confess to you that we have not done very much in the State of Texas in a formal manner. Some of the developments do reflect, however, that our four-year institutions are sensitive to the need to play a role in meeting the postsecondary occupational needs. I feel that the most obvious evidence of this has been the emergence of baccalaureate degree programs designed to provide an opportunity for the continuing education of the Associate Degree graduate of occupationally oriented programs. Thus, the following degree programs have emerged: Bachelor of Science in Technology, Bachelor of Science in Industrial Technology, Bachelor of Science in Engineering Technology, Bachelor of Applied Science, and Bachelor of Science in Occupational Education.

With more than 50 public community colleges in the state, there is a considerable amount of pressure from the graduates themselves to continue their education.

On a very personal note, I am pleased to admit that much of our curriculum development and planning in the School of Technology at Texas Southern University has been done with a view toward complimenting some of the activities in the community colleges. Likewise, the Governing Board for the State of Texas has given leadership to the matter of articulation between the two-year and four-year programs as reflected by:

(1) having recently approved four-year occupationally oriented programs (for example, in business technology, applied science, industrial technology, and engineering technology),

(2) requiring four-year institutions to accept D's from community colleges.

From what I have seen in the literature, it is evident that the state of Pennsylvania is also providing third- and fourth-year programs for many of its two-year college graduates, especially in the technologies.

MEETING VOCATIONAL NEEDS INTERNATIONALLY

Those of us in the field of occupational education must, indeed, become more global and international in our way of looking at the postsecondary occupational needs. Thus, we will need to be exploring interinstitutional possibilities not only with some of our sister institutions in the adjoining counties and towns but also those in other countries. Perhaps the community colleges are more appropriate for interfacing with developing countries than the four-year institutions.

Recent reports on such issues as the high rate of illiteracy in the country, problems with productivity of workers, and a need for a higher degree of accountability, all signal the need for more cooperative strategies among our many institutions and agencies. Let us, therefore, rise to the occasion and use our collective intelligence and creative imagination to devise educational delivery systems that will meet the exciting challenges of the coming decade.

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ARTICULATION IN AN URBAN SETTING

John B. Hirt
Community College of Allegheny County

I am personally delighted to have this opportunity to speak on the topic of "Articulation in an Urban Setting." I can think of no more appropriate emphasis than "articulation" for this seventh conference. From my observations of community colleges in urban settings, they are generally involved in unique articulation processes and arrangements not only with four-year colleges and universities but with secondary schools, vocational-technical schools, and other such training agencies as city and county manpower programs, industry-based programs, and others.

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

Let me build a frame of reference around my topic by acquainting you with my college and its urban environment. The nucleus of the Community College of Allegheny County as a geographic entity is the city of Pittsburgh. Pittsburgh represents nearly one-third of the total population of the county, which is 1,650,000. The college's student population is likewise represented by nearly one-third city and two-thirds county residents. That student population now is projected to reach 40,000 credit and noncredit students and 18,200 FTEs for 1975-1976. Roughly half of our students are enrolled in credit day and evening programs. Of this number, 65 percent are enrolled in career programs and are seeking a diploma, certificate, and/or degree. Transfer-oriented students can be expected to seek and gain admission to one of more than 100 transfer institutions following their graduation. Articulation with most transfer institutions has progressed quite satisfactorily over the years to the point that few of our graduates are presented with any serious impediments to furthering their career aspirations. A majority of our graduates--as is true for most every urban community college--will seek and gain admission to a college or university within our region, which are quite receptive to community college graduates. At this stage of the college's development, a graduating class will number about 3,000 degree students; 1,000 of whom will seek upper-division admission immediately. There are, of course, several pragmatic reasons for the progressive developments in establishing sound articulation policies and arrangements. Rather than elaborate on those factors, however, I would prefer to believe that my College has successfully experimented with improving educational strategies for serving the needs of selected secondary as well as postsecondary students. It is the service to these diverse student needs and the variety of articulation arrangements that I will elaborate here.

TRENDS IN ARTICULATION IN THE COMMUNITY COLLEGE OF ALLEGHENY COUNTY

Because of time constraints and the sophistication of my audience, I will not further describe our particular urban setting. Suffice it to say that we face all the diversity of needs and demands and all of the wealth of talents and challenges that are part of an exciting urban setting. In serving students and cooperating with a variety of institutions, our primary objective in developing appropriate articulation arrangements is making innovative education synonymous with meaningful education.

My observations on the importance of our own developing interrelationships with secondary and higher educational institutions, plus our consideration of developing articulation patterns in the Pittsburgh urban area, will clearly indicate the emergence of the urban community college as a major, and perhaps the dominant, avenue for building logical models for student transition from one level to another. If you will accept this, I will turn to a more specific consideration of my reasons for making this statement by noting the significant trends evolving in articulation arrangements involving the Community College of Allegheny County and, indeed, most all urban community colleges.

First, in recent years, pressures on college enrollments from too many and now, too few, students have given overdue emphasis to a wide acceptance of articulation as both a concept and a more clearly understood educational term. A definition of this term that is succinct and most likely acceptable to all here can be found in Good's *Dictionary of Education* stating that articulation is "the degree to which the interlocking and interrelation of the successive levels of the educational system facilitate continuous and efficient educational progress" of students. Like much of the literature of education, this definition assumes that the ideal exists. That is, it defines what should be rather than what is. In actual practice, and because of the promises inherent in achieving the status implied by this definition, articulation in the urban setting may be further defined as being *the planned development of linkages in a learning continuum.* These planned developments always represent concerted, joint efforts of individual educational leaders and institutions. Such efforts are generally voluntary and are inspired by the press of demands for facilitating the transfer or flow of students from one level of educational training to another. If each level can view the other and can, indeed, enhance communications by agreeing that learning as a continuum transcends organizational units, a parameter of understanding will result that will enhance articulation among the various administrative divisions in a particular educational setting. This process is occurring in western Pennsylvania to a healthy degree and provides significant promise for institutions and students alike.

In our unique situation, plans for *vertical* articulation between secondary schools, the community college, and upper-division institutions are augmented by arrangements for horizontal articulation with vocational-technical schools and lower-division programs at other higher educational institutions. I will return to a fuller treatment of this trend line after describing a few other related factors.

A *second trend* is the emergence of the urban community college as a significant educational resource for vocational-technical education. Traditionally, public two-year colleges have prepared students for transfer and have given primary emphasis to that role. In recent years, however, the comprehensive community college--particularly one in an urban setting--has assumed major responsibilities for the preparation of students for occupations. The community college emphasis in career and occupational education has become of primary importance because of the very nature of such institutions. By design, urban community colleges are not handicapped by restrictions of the heavy hand of tradition. Offerings and programs are planned to meet the needs of communities. In an urban setting, those needs are diverse and many. The community college may be the only appropriate agency or institution in a given setting for preparing machinists, sanitation technicians, emergency medical technicians, welding technicians, as well as certified public secretaries, corrections officers, chefs' apprentices, and a wide range of other human resources. The urban community college is leading developments in occupational education for some of the same reasons that it now has a major role in articulation linkages. In responding to the demands of urban needs, the community college became a focus for the rising aspirations of minority groups, the demands of labor and industry for occupational education, the demands of adult citizens for more comprehensive part-time programs, the demands of the underemployed and unemployed for retraining and the upgrading of skills, and the demands of urban society in general for an institutional form that will serve a very diverse range of student potential including those with low academic capability--ranging even to specialized occupational programs such as nursing and certain engineering technologies which are highly selective. Although, in many instances, the urban community college is the major delivery system for postsecondary occupational education, in the Pittsburgh area and most other urban centers it is complementary to vocational-technical schools, business and industry training programs, apprentice training, proprietary schools, hospital training programs, and so forth. What appears to be evolving is a clear relationship of the strengths that the urban community college can share with other institutional forms and *vice versa*.

A third trend which may very likely continue for many years before its impact can be fully measured is the growing evidence that *preparation for employment* and growth in one's job is, in nearly every sector of the country, recognized as an important responsibility of the community college and a response to a life-long learning requirement. Although related to the continuing emphasis on occupational educational education, in the urban setting this trend appears to manifest itself in several unique and situational patterns. In Allegheny County, for example, the college can be called upon by the steel industry to prepare minority applicants for apprenticeship programs; by governmental agencies to train and upgrade accounting clerks, bookkeepers, and secretaries; by certain industrial employers to provide a management program for first-line supervisors and foremen; by industry to prepare specialists to perform tasks required by new technologies; by county agencies to prepare mental health technicians; by an association to prepare and credential technicians in a paraprofessional field; and so forth. In this respect, the college is called upon to provide occupational education programs designed or tailored to meet the specific needs of a clientele group--or rather, a community interest. I speak to this characteristic of the urban community college at this time because the very reasons that employer groups seek our services relate to articulation. Perhaps the kind of articulation that develops as a result of these offerings points up a rather healthy phenomenon in American higher education. Not only is the college serving a pragmatic function by responding to specific employer needs, it is setting a pace that affects the thinking in other institutions. This is manifested by the interest of colleges and universities, especially, which seek through consortia and a variety of formal and informal arrangements to either provide similar services or to complement our efforts by developing upper-division transfer opportunities. In time there will no doubt be many relatively new occupational curricula that were developed by community colleges and evolved into necessary upper-division offerings. This possibility holds great promise for developing forms of articulation.

A fourth trend, and the final one I want to mention here, is that of the increasing numbers of high schools and vocational-technical schools cooperating with community colleges in early admission programs. Our College, for example, now works closely with many secondary schools to allow their students to enroll for one or more college courses during the senior year. Some of these students are well qualified academically and aspire to four-year college or university admission following graduation; others seek a higher level of technical and vocational preparation to permit them to enter the work force. Secondary school leaders and counselors have begun to view this form of articulation, however, as a viable model for improving what has been called the "great sorting" process of assisting both student and college in the making of good admissions and selection decisions. Overall, the college and participating secondary schools have found that the communications improvements between our professional staffs have resulted in a meaningful articulation of efforts. Information is exchanged and there is a continuing reinforcement of each other's efforts. This cooperative planning has vastly improved techniques of assisting students and parents. It may yet be too early in the history of this form of articulation to predict a future pattern. Yet, it is to me an impressive example of linking secondary schools and colleges into a continuum of progress.

CONCLUSION

Realizing that I have covered a spectrum of issues pertaining to urban articulation, let me try to offer more perspective on the topic in general. There are approximately three thousand institutions of higher education serving the nation. Nearly one thousand are two-year institutions which are either community colleges, private transfer junior colleges, or private and public technical institutions. The technical institutes are generally concerned solely with the preparation of students for highly specific technical vocations. Private junior colleges generally offer a rather traditional liberal arts program. The public community colleges, now representing more than two-thirds of the two-year institutions, accommodate occupational and general education curricula plus remedial and developmental education, adult continuing education, and community services for a local constituency. Along with diverse private liberal arts colleges and large universities, there are thousands of noncollegiate agencies and programs, including those run by business, industry, and the military. In the urban setting, articulation among these various resources is a responsibility for service to the public and for purposes of improving economic development and educational effectiveness. It is an important responsibility because the task of promoting articulation, and hence integration, has become more complex in the urban setting while all of the reasons for close cooperation and communication between segments of the educational system have never been more understood. It may well be that a single axiom should prevail in articulation dialogue. The axiom is that *familiarity breeds respect.* The by-products of becoming familiar--one segment with the other--is mutual understanding.

The Pittsburgh higher education community has progressed significantly in developing modes of articulation that are generally required in urban settings. We have all of the requirements for promoting comprehensive articulation--universities, colleges, a large community college system, private two-year programs, technical schools, proprietary schools, and a range of governmental schools and employer programs. Our approach, like that of other urban community colleges, has been to promote dialogue, interaction of staff and faculty, exchanges of students, and such other activities as contribute to improving overall understanding of one another in the interest of improving opportunities for individuals. I am subjective enough about higher education to believe that with the impact of community colleges on college attendance patterns, articulation will continue to be a prominent educational issue. Much of the vigorous energy required to continue altering the traditional fabric of higher education will emanate from urban community colleges due to the comprehensiveness and their proximity to other institutional forms. So that I may draw to a close on a very positive statement, I have concluded that, in spite of critical issues to be coped with and challenges to be faced, cooperation among educational levels can enter a so-called golden age as institutions continue to diversify while sharing strengths. The urban community college will play a major role in bringing institutional forms into closer harmony. Indeed, I believe that the necessary catalyst for bringing about *higher levels of articulation is the community college.*

IS ARTICULATION FOR REAL?

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INTRODUCTION

There is always a feeling of "homecoming" when I am invited to participate in conferences and meetings here in Pennsylvania. I inevitably experience an inner sense of excitement and joy when asked to return to the Commonwealth. At the same time, however, I usually experience a far keener sense of "stage-fright" when preparing a message because I realize that I will be in the presence of you who know me well, perhaps too well for me to qualify as a "visiting resource person."

I had the privilege of being one of the presenters at the first annual meeting of this Pennsylvania Conference on Postsecondary Occupational Education held in 1969. A review of the table of contents and a reading of the proceedings of that conference give one an excellent view of the stage of development of postsecondary occupational education in Pennsylvania at that time as well as the priorities, the problems, and the issues confronting all of you at that time. Contrasting that conference with the list of topics for this the Seventh Annual Conference does document the rapid changes which have taken place, some good and some bad.

One of the papers presented at that earlier conference was by Lewis R. Fibel and was entitled "Occupational Education in Community Colleges Today and in 1980." Lew lamented that community colleges had not achieved a sterling record in the occupational field. Too many institutions were clearly preoccupied with academic transfer rather than occupational programs. He observed that most activity was in the business fields and the public service fields with much less in health, industrial technology, and agriculture. After analyzing problems related to relevance of instruction, recruitment and placement of students, and faculty attitudes, Fibel observed that evidence of progress toward the future could be seen. He then outlined some forecasts for 1980 including growth in state plans, state bureaucracy, and federal funding that would result in further external control upon the individual institution. The record would show he was correct in predicting continued growth in the enrollment of two-year colleges generally and in the occupational programs particularly. At that point, though, Lew's predictions became less accurate, at least if we were to use 1975 as a progress check point for his success rate.

Lew was predicting that by 1980 baccalaureate programs in the technologies and career ladders associated with many occupations would "blur the lines of distinction between occupational and transfer curriculums" and thus students would not be rigidly categorized. He also predicted that curriculum concepts related to career ladders, individualized instruction, and work-study arrangements would find a more student-centered and integrated curriculum from the high school through the university levels. Tutorial approaches, use of program instruction, multiple methods of instruction within a course, and the development of units of instruction as contrasted to courses with proficiency of achievement measured by examination rather than course completion was seen as obtainable and operational in his prophecies. Each of us here can judge how accurate a predictor Lew was as his predictions relate to our own institution and its relationship to the student, other institutions, and the larger community, including employers, the state, and the federal government.

THE PROBLEM

The American educational system has evolved from a historical separatism as irrational as the separatism involved in the sectarian conflicts of today. Unfortunately, contemporary educational thinking has not appropriately progressed to an appreciation of the tragedy and waste of this situation.

Separateness of secondary and postsecondary levels illustrates the unbelievably naive and misdirected attitudes of society toward education in general. The terminology alone is testimony to this fact. When we use the terms elementary, secondary, postsecondary, and higher education, we also convey attitudinal levels of status and prestige. While efforts have been made to turn this notion around, social attitudes have, until recently, continued to give greater recognition to the wrong end of the continuum. Use of the terms "primary schools" or "basic education" to denote the crucial nature of education during the formative years of an individual had relatively little influence in changing attitudes, as we will note later. Nevertheless, there is reason to believe society has come of age in recognizing that the greatest potential for serving the individual differences of students will come during the earliest formative years, even perhaps before the traditional entry level of the public schools. Some of the most exciting developments in new and nontraditional approaches to education are taking place at the preschool and primary grades end of the continuum.

SEPARATISM AND THE CAREER EDUCATION CONCEPT

The career education concept advocated by Marland in 1971 sought to make articulation real by permeating all education at all levels. Unfortunately, many have focused upon the word "career" rather than on "concept" in finding meaning. As a result, many misunderstand the concept and are led to make the grievous error of assuming a continuation of separatism in education rather than a unity. The career education concept is also jeopardized by the organizational structure of the educational system which contributes to separatism in jurisdictions and in loyalties. The types of educational programs, the separate compartmentalization of subject areas, the methodology of approach, and practices at the institutional or operational level are additional potential impediments to the realization of the career education concept. Too much of the educational program is predicated upon the principle of screening or weeding out the "unfit" instead of tailoring experiences to bring to full blossom the potential and uniqueness of each student. A final aspect of the problem is the necessity to bring perspective to these various components to assure that something will be done about it from within as well as from without the education system (Marland 1972a).

Separatism in education, together with misplaced values and status, have resulted in immeasurable loss in human resources. The United States, originally endowed with rich natural resources, spawned a society which condoned exploitation of the seemingly endless bounty of those resources. Human resources were viewed not too differently until World War II when it became apparent the only regenerative resources available would be those of mankind.

Shortages of natural resources during World War II and the realization that some natural resources would in fact become depleted provided a stern warning that our country must shift from exploitation to conservation and regeneration wherever possible. During the quarter century which followed World War II, we have only crept toward an operational model for effective development and regeneration of human resources.
Sixty percent of the youth who enter our public schools are forced through programs which have no meaningful utility to them at the end of the twelfth year of study. We have ample testimony of the resulting loss of human resources, as evidenced by a large segment of dropouts along the way and graduates unemployed after high school. We must also consider the slow pace of response of our educational system to those who need retooling or renewal education throughout their lifetime because of the rapidity of change and the complexity of our

technological society (Daugherty 1972). Rhetoric still surpasses performance in the challenge of the educational system to respond to change and the concomitant needs of the citizenry.

America's educational system continues to be out of kilter with the career education concept. High school college preparatory and general academic programs continue to be out of proportion to the number of students who will follow the path laid by such curricula. Many fall along the way into a valley of ambiguity which places them in the real world, ill-prepared and ill-equipped to find appropriate employment or to assume an appropriate citizenship role.

The tragedy of unemployment, underemployment, and unhappy employment can, to a great extent, be blamed upon the misalignment of the educational system and its lack of articulation with business, industry, government, and other employers of the real world. Venn (1964, p. 1) states it bluntly:

> Yet, though technology today in effect dictates the role that education must play in preparing man for work, no level of American education has fully recognized this fact of life.

The problem of misalignment is also significant because while we espouse conservation and regeneration of human resources as a principle, the educational community is guilty of wasteful duplication of programs and services in many states. This occurs in spite of scarce resources and the consequences of the inadequate programs which result from such wastefulness. Utah State Senator Ernest H. Dean warns that public confidence in the formal education system has increasingly waned or diminished and that further loss is inevitable unless something is done about it (Dean 1971).

Regrettably, educators fail to accept the inevitable tendency of society to expect its changing needs to be served by existing social institutions and to turn to or create others when those existing insititutions fail. The community college maintains it evolved to a great extent because of the failure of other institutions to respond and serve society's needs; the question will be whether this institution itself can be flexible in responses or whether rigor mortis will set in.

NATIONAL EFFORTS TOWARD ARTICULATION

Although it would be possible to identify strong evidence of the determinants of the societal shift toward occupational education long before 1970, I believe the past five years has had more rapid and more meaningful change than any time period since the landmark Morrill Act, a comparable benchmark in the history of American education. A variety of pressures can be seen such as the sensational exposé in 1970 by Ivar Berg in his book, *Education and Jobs: The Great Training Robbery*. This indictment against both the educational institutions and the employers who contribute to the artificiality of credentialism was to have tremendous impact upon the attitudes and the values of the general public. The highly publicized Newman Report was also critical of various aspects of the education establishment, directing its sting at nearly every postsecondary institution including the community junior college. It observed:

> The "junior college scenario" is thus one of transformation of community institutions into amorphous, bland, increasingly large, increasingly state dominated, two-year institutions which serve a number of interests other than that of their own students (U. S. Office of Education 1971, p. 59).

As these frontal attacks were being made on social attitudes and the educational system, a rejuvenation in the philosophy and purpose of education was being formulated and enunciated as the career education concept. Thus, as positive electrical poles interacted with the negative poles of external criticism, significant redirection and promise were to result. Enrollment patterns during the 1972-1975 academic year period have demonstrated this fact. While full-time new admissions to postsecondary institutions have grown at less than 2 percent and some individual institutions have even experienced stabilization or reduction, the actual head-count of students enrolled for part-time and full-time courses continues to increase substantially across the nation. Most significant, however, is the dramatic shift in applications for admission from academic to occupational programs.

The increase in the numbers of part-time students and those who seek occupational education programs suggests that the concept of life-long educational opportunity is more than rhetoric. The growth of the proprietary school sector and the fact that many corporate organizations are developing training and education divisions to serve this expanding market should signal public secondary and postsecondary education institutions to abandon artificial traditions and insidious separatism in favor of a dynamic articulated delivery system.

The Education Amendments of 1972, even if not significantly supported by federal appropriations, cannot help but advance this movement toward an articulated educational continuum. The 1202 Commission provision will force cooperation, coordination, and articulation from a federal level if it is not already in existence or has not been achieved at the state and local level.

Equally important at the national level has been the pressure of nongovernmental organizations to force greater emphasis upon learning and the student with less importance attached to teaching and institutional survival. A variety of commissions have been formed to advance nontraditional education, which basically is the learning process outside the formal educational establishment. Recognition of learning, regardless of source, has become a broad-based expectation so forceful and so politically potent that the credentialing monopoly of colleges and universities have had their walls pierced, if not effectively broken, in the longer range perspective. The press for "credit" for prior learning, regardless of source, has made the CLEP (College Level

Education Program) a cornerstone in the building of future societal expectations that skills and knowledge successfully achieved should not be ignored or discredited by the educational establishment. Competency-based evaluation is not limited to the educational establishment, however. The courts have already demonstrated their willingness to forge new policy if the educational community or state legislatures do not. The Griggs vs. Duke Power case should be taken more seriously by educators than it has up until this time. With affirmative action pressures, with consumer protection vigilance, and with increasing suspicion by the general public of the integrity of business and industry in our society, we can anticipate that employment policies and practices may well become a focal point of the courts in the same manner that the educational institution has. Should this be the case, we can expect that performance or competency-based criteria will supplant a certificate or degree of the educational institution as the criteria for both job entry and for promotion and advancement within an organization.

The final illustration of the national press can be seen in the rapid changes occurring because of a peacetime military force. The ability to move from place to place while being able to pursue career objectives has tremendous implications for us in the educational community. Articulation between the interests of the military and the offerings of the educational institution has probably advanced more in the past five years than has articulation among the various types of secondary and postsecondary educational institutions. Opportunities to utilize training materials and programs formerly developed and used by the military can provide an important avenue for curriculum development and competency-oriented instruction in many occupational areas. At the present time, however, much of this effort has been uncoordinated, piecemeal, and used more as a gimmick than as an educational reform.

THE STATE ARTICULATION PERSPECTIVE

State planning for occupational education is complex, containing numerous unpredictable variables. The volatile nature of occupational changes within a technological society operating under segmented national priorities rather than enunciated national policies make the task of prediction precarious indeed. State planning for occupational education probably is more intricate than for any other social service.

Toffler (1970) speaks of the transient society and describes Americans as the "new nomads." State planning for occupational education is confronted by a paradox in this regard. While nearly half of the people in the United States have changed their residence during the past five years, the middle manpower and young professional segment of the labor force has earned the new title of "migrant worker." High rates of geographical mobility also exist among those in the unskilled and semiskilled groups, although the distance involved is usually quite limited--typically being within the neighborhood or county radius. Thus, if a company moves to a new state or government contracts call for large shifts of jobs, immediate adverse effects can be felt in a region of a given state. In order for the labor force to have the potential for a high degree of mobility, provision for training and retraining must be available in an orchestrated continuum.

An examination of state plans for occupational education in existing documents reveals relatively little attention to the problem of articulation between secondary and postsecondary occupational education. However, according to a national survey of state directors of vocational education, state directors of community colleges, and state higher education executive officers carried out by the FSU Center for State and Regional Leadership in 1973, it appears that efforts to focus attention upon the problem of articulation between secondary and postsecondary occupational education is increasing. The majority of the states are sponsoring conferences or other organized activities to deal with the problem according to the results of that study. The majority of the conferences are at the state level, however, and little evidence could be found that local interinstitutional projects are more than an occasional or rare arrangement which has developed because of the good will of the individual personalities of the respective institutional heads. In most cases, articulation was seen as between departments or divisions of a given institution and a given business or industry rather than between various educational or training institutions within the area involved.

In an entirely different study conducted in preparation for a national invitational conference of state officials responsible for vocational-technical education, adult education, and community colleges, a survey instrument was designed whereby state officials could rank order problems or issues related to ten articulation areas as well as the locus of responsibility for initiating action to resolve the problem identified.

An analysis of selected items reveals interesting contrasts between the state director of vocational education and his counterpart responsible for community junior colleges. In the first place, state directors of vocational education viewed problems of transfer of credits from one program to another and from one institution to another as well as the role of colleges and universities in fostering articulation within the career education concept as among the most important of any problems. They did not, however, identify their own agency as the appropriate initiator for resolving the problem. State directors of community colleges, on the other hand, ranked those same areas as least important but were prone to identify their agency as the appropriate one for resolving the issues. Thus we find one state official sees the problem of articulation as being significant but does not see his agency as being in a position of initiating action for its resolution, while the other perceives little intensity of the problem but believes it to be in his own jurisdiction.

State directors for community colleges identified the highest rank order in the area of statewide planning and articulation between or among the three state agencies involved in the study. When examining the responses by each state reporting, it was apparent that the significance of the problem was proportional to the degree of direct jurisdictional relationship. In other words, governing agencies for community colleges having no authority over vocational and technical education ranked the organizational articulation issue as most important. Those agencies responsible for community colleges which were within the same organizational structure accountable for vocational and technical education ranked the items as among the least important.

Comparison of the two studies would lead to the conclusion that the greater the separation between the agencies responsible for community colleges and those responsible for vocational and technical education, the greater the problem of articulation. Wherever the agencies are under the same umbrella, whether a state board of education or a separate statewide board, greater coordination and cooperation were implied.

Several nctable efforts at the state level can be identified as the "good news" dimension of the problem. Pennsylvania is one of the states in the forefront of attempting to foster institutional articulation through its regional planning areas. Built on a cornerstone of good will and voluntary institutional commitemnt to the operational aspects of regional coordination and articulation, Pennsylvania's effort has had mixed results to date. This is to be expected where the diversity is so broad and the tradition of separatism so historical. Progress, nevertheless, can be clearly documented through this effort in the Commonwealth.

LOCAL INSTITUTIONAL ARTICULATION EFFORTS

The ferment of desire for greater articulation at the subject matter level can be seen in the isolated intrainstitutional efforts for interdisciplinary curriculums. Many of the institutions represented here could identify interdisciplinary working relationships between faculty among different departments. This, in my judgment, is the bedrock for ultimate articulation in the best sense. Of all definitions of articulation, I believe the one needing to be operationalized is that appearing in Handbook VI, *Standard Terminology for Curriculums and Instruction in Local and State School Systems* which reads:

> The manner in which the classroom instruction, curricular activities and instructional services of the school system are interrelated and interdependent, the aim being to facilitate the continuous and efficient education program of the pupils (e.g., from one grade to the next; from elementary to secondary school; and from secondary school to college), to interrelate various area of curriculum (e.g., Fine Arts and Language Arts), and/or to interrelate the school's instructional institutions (e.g., the home, church, youth groups and welfare agencies) (National Center for Educational Statistics 1970, p. 75).

The "bad news" is the discouraging amount of separatism still existing between and within local institutions. Pennsylvania has provided several models at the local level that have a form of continuum reflected in their structure and its relationship to true articulation. At one end of the continuum we find a community college and an area vocational-technical school located in the same county or area but having little or no communication and thus no consistent operational articulation. In the middle of the continuum you may find a community college and an area vocational-technical school built on adjacent sites, an arrangement that would suggest meaningful and consistent articulation. The results of this arrangement are better known by those of you serving in those specific institutions than those of us who look from the outside, although, I must say, the picture is not one of clearly visible complimentary working relationships. At the other end of the continuum is the community college and area vocational school arrangement such as the Williamsport Area Community College whereby structure and program both are combined into a single institution.

In most cases, articulation tends to center around agreements between institutions for territorial rights. One will agree not to offer certain programs as long as the other agrees that the first may have eminent domain over another program or series of programs. Articulation tends not to be a continuum whereby the student is afforded an opportunity to move through a program at his own rate and by taking the best of each institution.

OBSTACLES TO REAL ARTICULATION

There are three significant obstacles to real articulation which I should like to challenge this conference to tackle. I truly believe real articulation is within grasp and I believe it is evolving, although too slowly for the benefit of the people.

The first obstacle is that of the myth of the terminal concept of occupational education. We know the need for life-long training and retraining in a changing technological society; but, we still have perpetuated, through our structure of the educational institution and the curriculum, an attitude fostered in parents, school counselors, employers, and thus the students that choice of an occupational track will lead to a closed rather than an open door.

The second obstacle is that of the organizational structure of the different institutions within the Commonwealth. The pressure from Harrisburg to each of your institutions for separate domains must be counteracted by honest, sincere working relationships at the local level. Many of you are located in reasonable proximity for true day-to-day articulation designed to benefit the student, young or old.

The third obstacle, and perhaps the major one, is that of personalities. Unfortunately, human beings have a rigid, selfish, self-serving streak which often dominates the will and actions of chief executive officers, deans, department chairpersons, and faculty.

This symptom can be seen in the actions of state bureaucrats who press upon institutions for self-serving rather than student-serving ends. They are characteristically programmed to find reasons to say "no" or "it has never been done this way" rather than to dedicate their energies to avenues of supporting and ways to say "yes"! The result is continuation of separatism wherever it benefits one's own interests. Only through a sincere commitment to reverse this internal drive can we achieve the ultimate good.

A PROPOSAL

I should like to make a proposal to this group which would be addressed as part of your deliberations tomorrow. I would challenge each of you representing institutions within the same service area to pledge tonight to meet with your counterparts from within that service area with the view of reaching one firm articulation agreement before the end of this conference. I would propose that you seriously explore establishing one or two pilot committees made up of representatives of your institutions charged with identifying competencies common to some of your offerings for which individualized credit could be given to the student transferring in one direction or another. Credit for experience seems nonthreatening to most institutions anymore, yet credit for competencies already mastered at another institution becomes highly suspect in all too many cases. I propose that the Seventh Annual Pennsylvania Conference on Postsecondary Education generate firm agreements which could be recorded and then reviewed during the Eight Annual Conference when it would be possible to say that articulation is for real here in Pennsylvania.

ARTICULATION THROUGH COMMUNITY SERVICES

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In preparing this paper, the usual search of the literature was done only to find that not too many community service people have been writing very much, especially about the vocational aspect of the role that they play in a comprehensive educational plan. Even though they may not be writing, community service people are an integral part of the postsecondary education movement today and they are anxious to do their part.

SOME DEFINITIONS

The definition of community services in the area of vocational/occupational education to be used in this paper is as follows: The community service division should include the adult education credit and noncredit components of the institution; the community services division should be responsible for providing the services for adults both on and off campus; and, the personnel of the community service division must be committed to the philosophy that learning is a lifetime process. With the world of knowledge constantly growing, the job skill requirements constantly changing, and yesterday's education so quickly obsolete, continuing adult education is necessary for all those who hope to remain in the mainstream of today's complex society. The community service division personnel need to develop not only credit programs, but seminars and workshops on specific skills, short courses for industry, refresher courses, and adult vocational counseling services.

Community service personnel must be willing to cooperate, which is the definition being used for articulation--cooperation.

In one of the articles from *The Community Junior College Journal* read in the preparation of this paper, the following paragraph was found and deserves to be stated in an effort to highlight an attitude that community colleges and community service divisions should *not* present.

> The Community College, because of its unique role in post-high school education, should take the leadership in unifying the efforts of the post-high school education group of the community programs for post-high school career education. It is in a position to give vocational/occupational programs dignity, good facilities, staffing, and the most important element, giving the student educational mobility within the institution.

All institutions are capable of doing this. In some counties, AVT's have better facilities than the community college. In reference to the above statement, one must assume if there is no community college in the area this leadership does not develop. Anyone of us is capable of assuming leadership. That is why we must organize and cooperate so as to provide the most efficient and effective programs for the adults we serve. Again articulation means cooperation. Let us all cooperate.

The following is a paraphrase of an articulation that better suits postsecondary occupational education for Pennsylvania: The postsecondary institutions in Pennsylvania are strategically placed to be especially effective in the development of strong adult career-education programs, the great and growing need in education beyond the high school. We must meet the needs of all adults. Because we represent community institutions, we can all avail ourselves of close involvement and cooperation from business and industry, labor, and community organizations. The seeds of community involvement in education, at all levels, not just at the community college level or any one other level lie in mutual understanding and support, catalyzed by a strong community career-educational structure.

THE CLAIRTON EDUCATION CENTER

As our society moves with increasing rapidity into the space age with a need for highly trained technicians, the community college, community service divisions, and all postsecondary educational institutions must not fail in their commitments to provide education for all of the people. The career-education programs can be an important part in the lives of many thousands of students previously neglected. An example of this could be the Clairton Education Center sponsored by the community service division of South Campus. It is an off-campus facility in the third-class city of Clairton and is utilized for a continuing vocational education business program for adults of the area. Typing, shorthand, and business English are offered in two 2-day per week secretarial labs. Each lab accommodates 15 students for individualized instruction at beginning or intermediate skill levels. Bookkeeping I and II are offered on Fridays to round out the business education program and fully utilize the building during weekdays. A trimester plan of 45 hours of instruction in each subject area for 12 weeks has been adopted that makes it possible to hold three sessions between September 1 and June 30 each year. Approximately 40 persons participate in the program in each session. This program has had a high level of vocational success. A recent survey shows that among the 40 who attended the September-December 1974 session, 18 have obtained jobs, 2 have obtained a civil service rating, 3 had job offers that they declined, and 2 had enrolled in college-credit programs two months after the session ended. The instruction is backed up with workshops or interviewing techniques and practice in various testing situations. It has been very successful.

The postsecondary educational institutions must be alert to change, otherwise they will not meet the needs of a dynamic society, and society will then have to develop yet another institution to meet its needs.

ROLE OF THE POSTSECONDARY INSTITUTION IN CAREER EDUCATION

Drawing from ideas presented in a publication of the American Vocational Association entitled *The Role of Post-Secondary Occupational Education*, we will find that the postsecondary institution has the responsibility to the adult citizen to cooperate with the total system of career education within a community; that is, curriculum, facilities, and personnel should be articulated among local schools, manpower training agencies, employment services, rehabilitation programs, business and industry, and the community itself. Through planned articulation--i.e., a two-way street--duplication can be avoided and efforts and resources can be combined to produce effective programs at the lowest possible cost to taxpayers.

Postsecondary institutions, such as we represent, have the unique role of providing the leadership to accomplish the task of articulation and communication. It rests with us as administrators to take the initiative in seeking out other institutions within our communities working out programs that serve not only the children but also the adults of our communities. Speaking for the community service/adult education administrators of Pennsylvania's community colleges, we are more than willing to be one of the articulating institutions. An example of what can be done is the cooperation that takes place between the Community College of Allegheny County and the county's AVT's. The college handles all of the vocational programs being offered in the evenings and Saturdays and arrangements have been made to give advance standing to AVT graduates.

THE EXAMPLE OF CLACKAMAS COMMUNITY COLLEGE

How else can this needed cooperation be achieved? Another example is a community college in the Pacific Northwest (Clackamas Community College in Oregon) that is presently involved in a cooperative community education program with four of the ten school districts within the college district, involving over 60 percent of the total district population. Each local school district had its specific local needs which were to be met; nevertheless, all of the local districts had general needs which could be met with the help of the college resources. By working with school district administrators, college personnel devised a workable plan of cooperation and coordination that included financial, supervisory, and resource assistance.

The philosophy of the administration and board at Clackamas was that the role of the college should be: (1) to provide administrative personnel who become consultants to community schools; (2) to become a catalyst for promoting, explaining, and expanding community education; (3) to act as a resource to local school districts in organizing support for the community school concept; and (4) to work on a supervisory and/or colleague relationship with local community school directors and coordinators.

In carrying out that role, the administration developed a plan acceptable to local school districts whereby the college pays from one-fourth to one-half of the salary of each director or coordinator in the community school. The amount of financial support is determined by the population in each local school district. Then, too, by paying part of the salary of the local coordinator or director, the college does not pay rent for facilities it uses and the result is a greater use of classrooms by the local populace. This is articulation.

The community college personnel work closely with the local coordinators and directors. Yet, the objectives of the college personnel are to allow local school districts maximum freedom in planning and executing their community education programs. The college offers its services by providing classroom instructors and supervision for college sponsored vocational classes (credit and noncredit). The community schools have the flexibility to offer many kinds of activities such as classes taught by volunteers and other noncollege credit courses so that the many needs and wants of each individual community can be met.

THE GOAL OF PREPARING STUDENTS FOR LIFE AFTER GRADUATION: NEED FOR VOCATIONAL COUNSELING AND TRAINING

Marie Martin states in an article entitled "Advancing Career Education" that the common goal of schools and colleges is to respond to the student's specific, immediate educational needs in a manner that serves his long-term aspirations for a satisfying and meaningful life after his schooling is *ended*. What about the adult whose schooling ended *before* or *after* graduation without having been prepared in this manner? It is a role of the community service divisions to locate this adult who wants and needs this help and then develop his/her long-term aspirations.

Dr. Sidney Marland has pointed out that despite American education's unquestioned accomplishments, it can take little credit for its performance in making sure that no one leaves school unequipped to get and hold a decent job. Just about half of our high school students--on the order of 1,500,000 in any given year--are involved in schooling that prepares them neither for careers nor for college. Of the 3 out of 10 high school graduates who go on to higher education, one-third will drop out and a depressing proportion of the remainder will emerge with degree in hand but no clear-cut idea of what to do with it.

The staff of community service/adult education divisions need to have the vocational counseling and training capabilities to deal with these adults who turn again to the educational institutions for assistance. Robert Worthington, in an article in

Educational Leadership, states:

> The fundamental concept of career education is that all education experiences, curriculum, instruction, and counseling should be geared to preparing *each individual* for a life of economic independence, personal fulfillment, and an appreciation for the dignity of work. Its main purpose is to prepare all students *which would include adults* for successful and rewarding lives. Such help is provided to students by improving their basis for occupational skills, by enhancing their educational achievements, by making education more meaningful and relevant to their aspirations, and by increasing the real choices they have among the many different occupation and training avenues open to them.

Research reveals that the part-time and adult student comprises more than 50 percent of the enrollment in the community college. The student body is changing to include the older, uneducated, underemployed blue-collar worker with a below average income. Institutions must adapt to this change.

An academic commission on nontraditional study found that when adults were given a choice of subjects, 43 percent cited vocational subjects as their first choice, 13.4 percent cited hobbies and recreation, and 12 percent cited general education. Community service/adult education divisions need to adapt to this. Blocker, Plummer, and Richardson found that the single most important reason for an adult to return to school is economic. Eighty-five percent of the evening students in a Flint, Michigan, survey said they were attending evening school to obtain a better job. Community service divisions of postsecondary educational institutions must be prepared to service these adults. For an example, a reference will be made to a service of the South Campus funded by vocational education funds.

Vocational Counseling at South Campus

The first year of a program offering vocational counseling services free of charge to nonstudent members of the surrounding community was completed at the South Campus in June 1974. Of the 80 nonstudent clients served in the five-month experimental program, the great majority were high school graduate women, 30 years of age and over, who had worked in their homes for a number of years. The vocational counseling program offered ranged from individual self-evaluation and consultation to exploration groups and academic entry-level advisement. With over 70 percent of clients responding to an anonymous questionnaire in July 1974 the following items seem to indicate the service's value: 75 percent of clients responding indicated standard occupational interest surveys were of value; 81 percent of respondents indicated intention to enroll in educational or vocational programs within the next six months. A follow-up during the 1974-1975 academic year showed 34 of these adult men and women enrolled in South Campus credit programs and a number of adults enrolled in classes to prepare for equivalency tests or noncredit vocational programs. The counseling service has been extended and expanded during the 1974-1975 academic year with an equal degree of success. About 25 to 30 adults were tested and advised each month. Part-time day enrollment has risen from 230 to over 450 since the program started. This is an example of how and why there must be more to adult education than the leisure time courses.

Cohen has stated that:

> If the colleges continue merely to provide space for hobby courses, the community's performing groups and miscellaneous workshops, institutes and conferences--listed as community services mainly because they are allowed to be held on campus--the worth of community-service programs are in doubt.

We must be concerned with the continuing education of adults and the retraining of adults. Some of the articles read dealt with obsolete jobs. One referred to the thousands of check writers the federal government employed at one time. Where are they today? They are retrained workers.

NEED FOR VOCATIONAL RETRAINING FOR ADULTS

A prominent characteristic of today's technology, and so also of the preparation required by its workers, must include the concept of continual change. There is hardly a person beginning a career today who can afford the confidence that his or her present skills or training will be adequate to maintain a career for a lifetime.

Today 77 percent of our youth will be graduated from high school; of that number 42 percent will enroll in a bachelors degree program. Only 21 percent of those who start can be expected to earn a bachelors degree. Most of the students and the dropouts are adults. What will happen to those thousands of frustrated, academically-oriented adult students? Somehow they must find their way into productive positions. They must be helped through community service/adult education divisions of postsecondary vocational institutions.

Several references have been made to the importance of working with adults for community service personnel. This is done not so much to fault those who are not, but to point out that the adults should not be forgotten. The plight of adults can be illustrated by referring to a story told of the plight of Ford dealership owners when the Ford Mustang was first introduced in the 1960s. Business was never better. Customers were flocking to their showrooms. Everyone wanted to buy a Mustang; but that was the problem. The Mustangs were easy to sell so the salesmen were concentrating on selling Mustangs. The sales of Thunderbirds, Galaxies, and the more expensive models dropped. The owners were forced to set quotas. For X number of Mustangs, Y number of the bigger models must be sold. The setting of quotas is not being suggested, but a disproportionate amount of staff and money do go to servicing the recent high school graduate, rather than the adult who could have even greater needs. The younger student demands service, the older adult, unfortunately, is often too timid to speak up and demand equal service.

How many institutions employ evening vocational counselors? How many have placement directors who work two or more evenings a week or Saturdays? How many employ admissions people for part-time adults? How many have effective placement and advisement programs for part-time adults? Educational institutions must devote more attention to this area of concern.

Checking into the adult population showed that there are over 84,000,000 adults in the United States between the ages of 21 and 54 and only 27,000,000 between the ages of 14 and 20. If only one in three of these adults needs training, retraining, counseling, etc., the community service/adult education divisions have a larger group potential than the high schools and day divisions of community colleges.

Today, we must not only provide the right programs for adults, but community service divisions must become more involved in the testing, advisement, and placement of adults. Most students who enter the community college need counseling whether they realize the need or not. The community college must provide realistic counseling and career guidance for all students. In dealing with adults, the community service divisions should take leadership for the development of vocational education. The community service division is in a unique position to stimulate a coordinated program of career education learning opportunities which start with postsecondary adults.

In a 1973 survey of two-year college students, Michael Woliman of the General College, University of Minnesota, found that 63 percent of the students were either not at all satisfied with the way they had planned their occupational choice or were fairly satisfied but felt they still needed some planning. The survey did not show results by age groups; but if we are honest about our institutions, we will realize that at least 63% of the adults were not satisfied with the way they planned their occupational choices.

Our postsecondary education counseling programs need to include a community counselor who can understand the community and its occupational needs and relate the occupational needs to the institution best equipped to meet them. Because of the postsecondary institution commitment to the community as a whole, the community counselor should not function in the manner of a traditional guidance counselor. He must be involved with adults in their own setting, visit with them where they are, talk with them, and relate to their occupational problems. It is already known that the adults who most need our services do not tend to flock to our showrooms. They must be sought out, and the community counselor must do it. The community service divisions need to provide this counselor and his services.

CONCLUSION AND SUMMARY

Before making a summary, I would like to draw attention to a community service function of vocational education that is sometimes overlooked in our discussions. We are aware of the community service divisions using the AVT's facilities to offer courses such as heating and air conditioning, welding, and applied electronics. But if we consider that vocational education is that education that can lead to a concept that labor is labor whether it is done by the professional or the neighborhood handyman, we must accept a new role for vocational education. If community service vocational programs in brick laying, aluminum siding installation, cement work, and house wiring can provide an individual with part-time employment or with the skills to remodel his own home, these programs have been productive. They have added to productivity by providing extra income, by adding to the value of a property, or, at the very least, contributing to services purchased. There is a need to reawaken America to be self-sustaining. There is a great need to provide adults with the opportunity to expand their maintenance skills in the area of household functions. We need more courses in home wiring, cement work, aluminum siding installation, upholstery, etc. Adults then can either earn extra money or save money. Either way they will add to the economy.

In summary, community service divisions are involved in articulation with other institutions. However, they need to place greater emphasis on the vocational counseling, vocational training, and vocational retraining of adults so that everyone has the skills necessary to do the job he wants to do and for which he is best suited. A greater allocation of the funds and staff needs to be set aside for adult vocational education.

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THE ROLE OF COMPETENCY-BASED INSTRUCTION IN TEACHER PREPARATION

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For whom is competency-based education intended and who can profit from its offerings?

Competency-based education, in my opinion, is appropriate for all levels of instruction, administration, and teacher education. However, to be in accord with the charge I have been given for this presentation, I shall limit my comments to share with you very briefly some of my experience with competency-based teacher education (CBTE).

This presentation will consist of my views on (1) what CBTE should be, (3) how CBTE can be applied in postsecondary occupational education, and (3) what advantages CBTE possesses over traditional forms of teacher education.

What do we mean by competency-based teacher education? Is it a *different name* for the same old thing or is it something radically different? The answer is "yes" to both if you examine programs across the state and nation. Even at Temple you may find this paradox. However, in the Division of Vocational Education we are moving many of our programs toward the "radically" different new type as rapidly as possible.

EXPECTATIONS OF CBTE

What are the features of the competency-based vocational personnel development (teacher education) programs we are implementing and testing at Temple?

These programs have the following characteristics:

1. They start with *identifying the competency* needed and end with *assessing competency mastery* in the "real" school role.
2. They are *field-based.* Persons develop the competencies in the "actual" local school environment.
3. They are *individualized* to meet the competency development needs of each individual.
4. *Instruction is modularized.* Learning packages are used to facilitate directed individualized instruction in the pedagogy in the professional education component. Selection of a particular skill to develop is emphasized as opposed to taking a semester long course. A student can get what is needed when it is needed.
5. *Differentiated staffing* is used to provide university liaison (weekly school visitation) with local schools and programs.
6. A *council of educators* is used to assess the candidate's competency development as opposed to counting of credits. The council consists of a teacher representative, administrator, and teacher educator.
7. *Resource persons* are prepared to serve in *resident* and *field* resource persons situations. Over 100 persons have participated in these roles at Temple.
8. *In-service education* is provided for resource persons.
9. *Self-evaluation* is emphasized and facilitated through assessment instruments, video tape models, and video feedback.
10. *Acceptance of feedback* from peers, resource persons, and supervisors is emphasized.
11. The instruction is *self-pacing.* The individual may progress at his/her own rate.
12. A *test-out feature* is available.

13. *Supervisory assistance* is provided *weekly* through field resource persons and *daily* by resident resource persons.

14. They are *personalized* and *humanized* and designed to meet individual needs.

15. *Group* and *individualized instruction* are balanced to meet the needs of the persons involved.

If one uses his or her imagination a little, it should be obvious that these features tend to sharply differentiate the competency- and field-based programs from traditional campus and time-based offerings. By this approach, we are trying to promote the concept that teacher education is a *joint or cooperative venture* between the university and the schools that employ teachers.

Teachers who have participated in such programs with Temple University have indicated that they associate competency- and field-based teacher education programs with *improvement of their teaching skills* as opposed to taking a course to complete certification requirements as in the traditional programs.

POST SECONDARY APPLICATIONS OF CBTE

What kind of teacher education or personnel development is appropriate for postsecondary institutions?

Since teaching certificates are not required in most postsecondary institutions, an in-service teacher education program is strongly recommended. The requirements of such a program should be part of the employment agreement or contract. Assuming that an in-service form of personnel development would be the greatest need and interest to postsecondary institutions, the following suggestions are offered.

Such a system must involve one or more of the following: (1) a university teacher-educator, (2) a supervisor or department head, and (3) a fellow teacher or buddy system to provide feedback, evaluation, and direction to the program. Encouragement of a teacher self-evaluation system in conjunction with the other three approaches is also recommended.

Such a personnel development system must be based upon the pedagogical competency requirements of postsecondary teachers. Several states and institutions have completed competency studies to arrive at the competency base for their programs through the adaptation or use of the 384 teaching competencies cited by Cotrell and others (1972). Specifically, Oregon, Texas, Michigan, and Florida are some of the states in which postsecondary teaching competency validation studies have been conducted. The teachers and administrators in a given institution or state must decide what teaching skills are to be emphasized and developed by their personnel.

Out of the 384 competencies, decisions must be made regarding the importance of skills such as asking oral questions, demonstrating a concept, writing a lesson plan, and evaluating cognitive objectives.

The use of *video tape recording* (VTR) systems in conjunction with the development of process competencies is strongly recommended. Teacher self-evaluation can be accomplished through the use of the VTR. Video replay provides the teacher the opportunity to reconstruct a portion of a total presentation or discussion for purposes of self-analysis. This form of video feedback can also facilitate assistance from one's supervisor or fellow teacher. There is no need to rely upon memory to reconstruct the activity or to insist that the "live" session be observed by a supervisor. The video tape can be reviewed at a time that is most convenient for all concerned. The author has directed twelve formal investigations of the application of micro-teaching and video recording in vocational and technical teacher education which may be obtained through the ERIC system. One study of particular interest to postsecondary educators, Harrington and Doty (1971), was completed through the cooperation of the Columbus Technical Institute.

Micro-teaching can be very helpful in developing pedagogical process competencies, such as those dealing with oral questioning techniques. Micro-teaching involves the development of a specific teaching skill through the planning and presentation of short lessons five to seven minutes in duration to a small group of four to six students. This process involves planning, teaching, and evaluating a short lesson emphasizing a particular skill to a small group of students. After feedback from a video replay and/or the students, the lesson is replanned, presented, and evaluated with a different group of students. The typical practice cycle would allow 15 to 20 minutes for the initial presentation and evaluation, 15 to 30 minutes for replanning and 15 to 20 minutes for presenting and evaluating the revised lesson. In one hour or less it is possible for a teacher to have two teaching experiences, two feedback sessions, and time to revise plans based upon two valuable student and video feedback sessions. Obviously, the feedback sessions may involve the supervisor or others, and the whole process is dependent upon competencies that have been identified and have clear criteria for assessment. The criteria should be incorporated in an appropriate written rating instrument. Model video tapes illustrating each competency are very beneficial to the process. With both a rating instrument and a model illustrating the skill, a teacher has two valuable aids to help in meeting the behavioral requirements set forth in a terminal objective or in a given level of mastery for a competency. For those who are interested in these techniques for in-service education, more information may be obtained by referring to a report by Doty and Cotrell (1971) which described micro-teaching and video recording incorporated in in-service education in New York State. If you would like something more exotic, such as employing remote feedback techniques for in-service teachers in the mountains of Colorado, a report by Cameron and Cotrell (1970) is recommended.

To facilitate in-service education, another device is the *teacher education module* or learning package. A series of approximately 100 of these modules are currently under development by the National R & D Center for Vocational Education at The Ohio State University.

These are based upon 384 competencies identified by Cotrell and others (1972). The Division of Vocational Education at Temple University has been involved with testing these modules and implementing various competency- and field-based vocational teacher education systems since January of 1973. More information relative to one specific system (Program VITAL) is available in a journal article by Adamsky and Cotrell (1975).

These modules are intended for use primarily in *directed individualized instruction* but they may be used to plan or to supplement group instruction. A module consists of directions for the learner, a statement of objectives, a list of instructional resources, a sequence of individual lessons or learning experiences, information sheets, and assessment instruments (including criterion-reference evaluation) for pre- and post-testing.

Effective use of the modules typically requires the following steps, which are presented in a simplistic manner:

1. Assess the pedagogical needs through observing the teacher in action and engaging in follow-up conferences.
2. Select a module based upon the competency development needs and priorities of the teacher as previously determined.
3. Introduce and assign the appropriate learning experience from the modules.
4. Review progress of the teacher in moving from the introduction of a new concept to practice either under simulated conditions or in the daily classroom or laboratory teaching activity.
5. Observe the teacher in applying the new competency. If live observation is not practical, a video tape of selected activity is helpful.
6. Provide feedback for encouragement and assistance in the competency.

7. Promote further application of the skill until assessment of mastery is achieved.

8. Encourage continued use of the competency after mastery.

Implementation of a modularized and individualized system is dependent upon the: (1) availability of either an internal or external teacher educator type person, (2) identification of the teaching competencies that need to be stressed in the particular institution, (3) capability of an institution for assessing the teachers' needs and delivering assistance, (4) availability of essential resource materials and equipment, and (5) teachers being professional and eager for self-improvement.

After considering various aspects of competency- and field-based teacher education as contrasted with what we know about conventional or traditional campus and time-based or extension center types of teacher education, it seems appropriate to close by citing some advantages of CFBTE.

ADVANTAGES OF CFBTE

The kind of teacher education that I have described can have the following advantages:

1. The student has assistance in selecting the particular instruction he or she needs.

2. The student does not have to take a whole semester-long course. It may take only a few hours or days to master a particular competency in modularized instruction.

3. The student can get help that is needed, when it is needed. The assistance must be relevant since the need is expressed on the "firing line."

4. The student can demonstrate competence or test-out if he or she has acquired the competency.

5. Field-based teacher education is more meaningful. The student can see the need for the pedagogy because it is being applied each day in real teaching activity. If you have been around many student teachers in conventional programs, it is easy to recall their regrets that they had not understood the need for or given much attention to methods courses that they experienced prior to their student teaching activity.

6. CBTE goes all the way; it doesn't stop halfway through the learning process as is the case with traditional time-based instruction. CBTE starts with a needed competency and ends with assessment of competency mastery in the actual teaching role. Time-based instruction, even if it identifies the teacher's needs, stops with the final examination in the course. We then assume that the teacher will go to his/her classroom and apply. Rarely do we follow up to see if the teacher needs help with applying a new concept or skill. There is the possibility of a great chasm between levels of awareness/understanding and application/mastery. CBTE completes the cycle. Time-based programs typically go only half way.

7. CBTE helps to take some of the mystery out of the art and science of teaching and teacher education. This is accomplished through the cycle that begins with competency identification and ends with competency assessment. All concerned understand what is to be accomplished.

8. CBTE facilitates accountability. Reference is made to observable and measurable teaching competencies that we desire teachers to demonstrate. We are not talking about theory alone. The action domain of a competency consists of the fusion and integration of the affective, cognitive, and psychomotor domains of educational objectives.

9. CBTE is *performance-based*, not time-based. If a competency can be developed and demonstrated in a year, why take a two year course, etc.?

10. CBTE promotes *better communication* among all concerned with the educational process. Both the learner and the teacher know what behaviors are expected and how they are to be assessed and can work together to achieve these ends.

11. Teachers have the opportunity to *learn by a model* that they will apply in their teaching in a directed, individualized, competency-based local learning situation.

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THE ROLE OF FOLLOW-UP STUDIES IN ARTICULATION

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PROBLEMS OF ARTICULATION

Many attempts have been made to improve the articulation between various segments of our education system, particularly those offering occupational education.[1] When one considers the variety of types of institutions offering this occupational education, it is no surprise that articulation problems have developed. Because of their diverse nature, these institutions tend to be a mere assemblage of schools and do not lend themselves to becoming a part of a coherent system of education (Gillie 1973). It is ironic that we have a national commitment to universal education, and federal funds for it are available (PL 87-204; PL 89-752), but, at the same time, we have opposition to national planning for postsecondary education where proper plans for articulation could be made.

As the bridge between man and his work, vocational and technical education programs must be the result of a carefully planned design (Wenrich & Wenrich 1974). Vocational educators are becoming increasingly aware of the overlapping elements in occupational education. Each type of institution has its own unique objectives, and the potential for conflict is ever present. A master plan for vocational education that cuts across both secondary and postsecondary levels is needed to improve opportunities for students.

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[1] For the purpose of this paper, occupational education is defined as secondary and postsecondary vocational-technical education.

Possibly the most significant impetus to coordination is the difficulty of articulation. Unless special coordination efforts are made, the inadequate and improper articulation between the various institutions offering occupational education will continue to make it difficult for students to move from one institution to another without undue loss of credit and time.

Good articulation results from the recognition of the student as the focal point of learning (Pratt 1973). Consideration must be given to the students' needs, aspirations, and welfare. For example, how does the student who graduates from a surveying program in the area vocational-technical school fit into the associate degree program in a community college or subsequently into a baccalaureate program in surveying or civil engineering in a four-year institution? As the student ascends the educational ladder, each step is dependent on the previous step; to have a student falter is an indication of an unsafe ladder (Cross 1973). It is especially important to emphasize that good articulation in these institutions seeks to improve the occupational education condition in order to increase benefits for students.

When schools and colleges are unable to accept credits from other institutions or recognized certificates, diplomas, or degrees conferred, obvious economic inefficiency and individual frustration result. Both horizontal and vertical constraints inhibit articulation. Vertical inconsistencies occur where there is difficulty in maintaining continuity in grade levels within educational units, such as refusing to accept students who graduate from certain lower-level institutions or accepting only a portion of their previous work. Removing such vertical constraints is of greater urgency because of the social and economic mobility offered through further education (Blau & Duncan 1967). Horizontal constraints occur when a student wishes to move into a similar program in another institution. Because of increased geographic mobility, both types of articulation are of great importance. This concern is both economic and human, for we can ill afford inefficiency in either the cost of the educational system or in the training to which the individual is willing to devote so much of his time.

When interrelating two or more levels of education, the programs in the various types of institutions become interlocked, forming a continuous line and creating articulation. This process permits students to move easily from one level or type of institutions to another. Educators who are concerned with articulation should optimistically view it as an excellent means of developing an effective continuum of occupational education. Such coordination may be defined as "the act of regulating and combining so as to give harmonious results" (Glenny 1959). Recent research findings have reinforced the realization that the experience of learners must be a continuous and cumulative process. The ideal situation is perhaps to provide each student with the opportunity to progress from his own educational experiences at his own social and intellectual pace (Gillie 1973).

Manley (1970), speaking of the need for providing articulation between secondary and postsecondary institutions, states:

> Articulated effort should be a reality in order to provide the continuum of education necessary for each student to develop to his full potential without unnecessary duplication of instruction and delay in attaining his educational and career objectives.

However, this articulation of secondary and postsecondary programs cannot be forced upon institutions. Rather, there must be mutual respect and understanding of each institution's purposes and program. The major element in improving this articulation is communication.

This communication should provide the mutual understanding of the interrelatedness and interdependence of each program upon the other. There must be mutual acceptance of the worth of the the program being offered in each institution and recognition of the expertise of their graduates, since articulation between the institutions is essential if occuaptional education is to meet the needs of individuals and the demands of the world of work. The challenge of articulation between secondary and postsecondary institutions belongs to occupational education. Can we meet that challenge?

THE ROLE OF EVALUATION

A method of providing much of the information that needs to be communicated between the various levels of institutions to improve articulation can be gained through evaluation. In the past, much emphasis had been placed on the educational process with little attention given to the product, i.e., the student. More recently, product evaluation is becoming recognized as an important tool in evaluating how effectively a program meets the needs of the student it serves. The product approach is based on concern for the student and what the training does for him. It begins with attention to program objectives and ends with an inquiry into program outcomes, both qualitiative and quantitative. It is particularly concerned with how well the program fulfills its objectives--the extent to which students persist, how they find jobs appropriate to their training, and how they perform in these jobs. While this approach has limitations, utilizations of the findings which depend heavily upon the perceptions of the graduates themselves can be of great value.

Every institution, whether an AVTS, a community college, or a four-year college or university, operates under choices and decisions; and it is only through continuous evaluation that the appropriate decisions can be made. These decisions that direct the institution are made in the present, are based on experiences of the past, and seek to meet the anticipated educational needs of the future. Evaluation is directly related to planning and specifying goals and objectives.

Virtually no one would deny the need for evaluation in education. The issues revolve around the questions of what kind of evaluation, for what purpose, conducted by whom, and under what conditions? Evaluation is inherent in the operation of any type of educational institution simply because decisions must be made.

Without the data obtained from the evaluation process, it is impossible for the institutions to respond quickly and effectively to the dynamic forces that shape and change communities and which have such obvious impact on their citizens. A follow-up of former students provides information for evaluating programs and keeping the programs in tune with the changing conditions in the world of work.

FOLLOW-UP STUDIES - A METHOD OF EVALUATION

Considering the fact that the Vocational Education Act of 1963 requires each student completing a program financed by the act to be followed-up, why do we not utilize this information more fully in making our educational decisions? Follow-up studies can elicit information and obtain data that can be used to improve coordination and articulation between programs and institutions at various educational levels.

The follow-up study investigates individuals who have left an institution after having completed, or possibly dropped out of, a program or a course of study. The follow-up study is concerned with what has happened to them and what has been the impact upon them of the institution and its program. By examining their status or seeking their opinions, one may get some idea of the adequacy or inadequacy of the institution's programs and policies. Studies of this type enable an institution to evaluate various aspects of its program in light of actual results. Our particular thrust would be information concerning or relating to articulation. Follow-up studies, therefore, are an indispensable aid to vitality, efficiency, and productivity of the institutions.

Assessing the present state of follow-up studies, Little (1970) in his *Review and Synthesis of Research on the Placement and Follow-Up of Vocational Education Students* states:

> Follow-up studies of graduates of vocational education programming, if carefully planned and executed, can provide an important base of

> information to educational planners and administrators, and to future vocational-technical students. . . . this type of information can point the way to improved decision-making by governments and institutions on questions of priorities among types, levels and fields of education and training programs, and on decisions on allocations of resources to these programs.

The information derived from follow-up studies will provide a basis for future action in various phases of the college operation. This assumption is based on the belief that follow-up studies are directed toward the improvement of the institution. Follow-ups are not, and should not be, undertaken merely to compile records. Their ultimate objective is to gain information that will enable the institution to do a better job in serving the educational needs of the students. Figuratively speaking, a comprehensive follow-up study is a mirror through which the institution looks at itself in retrospect, at what it has really done for the people it is supposed to have served.

DESIGNING THE FOLLOW-UP STUDY

Follow-up studies require a great deal of time, they involve many people, and they cost money. If they are to be useful, they must be carefully planned and carried out. If the right questions are not asked, then the needed information will not be received. The follow-up should be a preplanned scheme for obtaining necessary data to improve the educational process.

Before actually developing the follow-up study, a number of points should be considered and satisfactorily answered, including:

1. What are the queries for which answers should be sought?

2. What issues can be wisely used in public opinion polls?
   Questions dealing with emotionally laden topics should be avoided.

3. Is the survey the best way to obtain the desired information?
   This calls for some careful thought about alternative ways to obtain the same data.

4. How will the results be used?
   The survey design should ask this of every potential question. If the answer received is vague or nondecisive, that item should be excluded. "Nice-to-know" kinds of items have no place in this kind of instrument.

5. Who will use the results?
   The answer to this question has considerable effect upon how the survey results are to be reported.

6. Are the facts obtained in such a way that they will not be out-of-date or of no interest by the time they are obtained and tabulated?

7. Can the data to be obtained by the follow-up help solve the problem under consideration?
   No "side trip" queries should be allowed in the survey.

8. What finances are available for conducting the follow-up?
   The finances that can be allocated to the conduct of the study heavily determine the kind of instrument, sampling strategy, and follow-up on nonrespondents used.

9. Are other resources available for assistance in conducting the study?
   It is important to know about computer availability, personnel assistance, etc., that can be used in the endeavor.

10. Would it be advisable to turn over the task of designing, conducting, and interpreting the survey

to an outside group (such as a state university or a private research agency)?
When the two-year college does not have the personnel to manage a survey, outside help should be sought. In many cases, university professors with an orientation for postsecondary occupational education are available to assist in such endeavors.

11. Is the follow-up seeking answers that are in fact already known?
More than one survey has asked for data from respondents that was available from other sources. The survey should seek answers that are clearly not known at the time.

12. How will the information be obtained? Should a mailed questionnaire be used? Or should it be some form of an interview?
This must be decided early because the approach taken will determine the structure of the survey.

13. Are the people conducting the survey truly capable of doing so?
Because of its importance, this question must be answered candidly. It is well to remember that a willingness to design, conduct, and interpret the survey is not enough--a survey director must be competent in this kind of activity (Gillie 1973, pp. 131-132).

Once the preceding questions are satisfactorily answered, the next step is to develop the follow-up study. A good follow-up study is developed in a logical step-by-step manner. The first step is the identification of objectives and stating a purpose for the study. A small working group of faculty and administrators should identify the objectives to be examined. These objectives should then be presented to other faculty and administrators concerned with the follow-up to solicit their reactions and determine what additional information should be sought.

At the same time the objectives of the study are being made, consideration has to be given to the selection of the sample. This determines to whom the questionnaire will be sent and has a major effect on the cost of the study. This sample determination will also have a great effect on the findings. Studies of graduates over a five- to ten-year period will reveal things that a one-year study will not show. This decision should be made with regard to the number of students and the allocations of time, manpower, and finances available for the follow-up study.

The third step in the development of the study is the estimate of the cost of the study. This is particularly important when special funds will have to be solicited to conduct the study. Consideration will have to be given to:

1. Manpower needs.
2. Sample size.
3. Questionnaire development and length.
4. Type and number of follow-ups.
5. Method of analyzing data.
6. Preparation and distribution of final report.

The fourth step is setting the time schedule for the study. A flow diagram showing the duration and sequence of events should be constructed and should include the following:

1. Drafting the plans and assembling all necessary statistical background data.
2. Designing the schedule and framing the questions.
3. Setting up the organization for conducting the study, providing work-office space, supplies, personnel, possibly training interviewers, etc.
4. Drawing and testing the sample. This involves preparing a source list, selecting the sample cases, writing the sample card, preparing the master list, and conducting a dry run.
5. Collecting and processing the data.

6. Tabulating returns.
7. Analyzing results and writing the report.
8. Publishing the findings.
9. Terminating the survey and disposing of the data.

The fifth and most extensive step is the development of the follow-up instrument. This step translates the objectives of the study into questionnaire items. Gillis poses several suggestions that should be applied to the selection of the items:

1. Restrict questions to those matters that directly relate to the problem.
2. Avoid those questions whose answers can be accurately found from other sources.
3. Remember your tabulation plans when selecting questions, as many types of questions do not lend themselves to easy tabulation and should be avoided.
4. If possible, obtain comparable data--compare questions, terms, definitions, and quantitative units of measurement with those that were found to be meaningful in other completed surveys.
5. Exercise care and caution when asking personal or potentially embarrassing questions.
6. Ask factual questions whose answers the respondents can be expected to know. When asking respondents questions that deal with recall, keep in mind the principal factors involved with remembering, namely: recency--more recent actions are remembered best and most accurately; primacy--associations formed first by the respondents are better remembered than those that are formed later; frequency--a more frequent type experience is recalled more effectively and accurately; duration--the length of experience affects remembering; meaningfulness--it is easier to recall things that make sense; set--people have a set or a readiness to remember certain experiences more readily than others; mode--the mode of recall demanded by the questions affects the ability to remember.

7. Avoid questions that encourage inaccurate responses; rephrase them or don't use them at all.
8. Avoid questions that demand too much extra effort from the respondent.
9. Avoid opinion questions except when the questionnaire is surveying opinions (1973, p. 186).

As well as translating the objectives of the study into questions, the designer of the study must also be sure that the items are understandable to the person who will receive the questionnaire. The following suggestions may be of use:

1. Use simple words that are familiar to the respondents.
2. Be concise.
3. Construct the questions so that they yield exactly the information sought.
4. Avoid ambiguous questions.
5. Avoid leading questions.
6. Avoid catch-words, or stereotyped words with emotional connotations.
7. Avoid the use of phrases that may reflect upon the prestige of the respondent.
8. Decide whether you want to personalize some of the questions.
9. Allow for all possible responses, including the answer "I don't know."
10. Avoid the use of unrealistic choices in multiple choice questions.
11. Keep the writing required of the respondents down to a minimum.
12. Include a few questions that serve as checks on the accuracy and consistency of the responses as a whole. Two questions worded differently but

asking for the same fact would be the type of approach suggested here.

13. Avoid questions that ask for responses toward socially accepted norms or values.

14. Avoid the risk of certain questions being considered unreasonable by prefacing them with a brief explanation which justifies the question.

Once the instrument has been designed, pretest it and conduct a pilot study using individuals who are similar to the intended sample. The pretest should reveal most of the defects in the original wording, procedures, and instructions associated with responding to the questionnaire. Based upon the results obtained in the pretest, the questionnaire should be refined and revised into its final form.

Follow-up studies can include or emphasize different things, but there are certain basic items that are generally included in all of them. Chief among these are:

1. Where graduates are located.
2. What they are doing.
3. Their marital status.
4. Their continuing educational experience and achievement.
5. Why they dropped out of high school or college, in case they did.
6. How they got their first job and how long it took to get a job.
7. Their job advancements and earnings.
8. How their present occupational choice related to their choice while in high school.
9. How many are employed in the occupation for which they were prepared, how many in a related occupation, and how many in a nonrelated occupation.
10. The chief difficulties encountered on their job.

11. Their opinions about the effectiveness of the guidance they received.

12. Their reactions to the worthwhileness of the academic and vocational subjects taken (London 1973, p. 246).

The type of information needed from a follow-up study which would concern itself with the problem of articulation between institutions offering occupational education is:

1. Determining the postsecondary institutions to which the AVTS students matriculate and the four-year institutions to which the lower level postsecondary students matriculate.
2. Ascertaining the major fields of study of the matriculating students.
3. Observing changes in the students after matriculation.
4. Discovering admission problems and problems of acceptability of previously established competencies.
5. Comparing the students' performance at the higher occupational level with their performance at the lower level.
6. Obtaining the students' opinion of the quality of preparation provided in the lower occupational level.
7. Ascertaining areas of strengths and weaknesses of the lower level programs.
8. Verifying correlation of subject matter taught at the lower level with that of the higher level.
9. For the postsecondary students, observing at what period of the two-year program most students transfer, and the relationship of the period of attendance at the two-year institution to success at the four-year institution.

Once the instrument has been developed and mailed, the next step is to develop and implement a follow-up strategy. It is common knowledge that the usual rate of return for follow-up surveys is considerably less than 100 percent. A suggested remedy is a sequence of two or three follow-up letters, spaced about ten days apart. This may bring the response rate to about 50 percent. Another measure which can increase the rate of response is telephone contact of a randomly selected portion of nonrespondents.

The sixth step is the tabulation and analysis of data. The data may be tabulated and processed by hand or by machine, but the procedure is different for each method. If punchcard equipment and a computer are available, by all means they should be used. They will yield more accurate and certainly faster results. If hand tabulation is to be used, the responses indicated on the instruments should be tabulated from day to day as the instruments are returned. A master sheet, or series of master sheets, designed to include all items covered in the instrument, should be used. When all returns are in and tabulated, tables and/or graphs and charts, with appropriate titles and column headings, should be constructed in which to enter the statistical data for the various items. These tables should show frequencies, totals, ranges, averages, percentages, and whatever other measures may be necessary to present the numerical findings.

When responses are to be tabulated and analyzed by machine, the tabulation process should wait until all returns are in or the cutoff date has arrived. Then tabulation cards should be punched for the entire lot at one setting. After the cards are checked for accuracy they should be taken to the computer, which should be programmed to process them and produce the desired analysis of the data. From the printout sheets frequencies, totals, ranges, averages, percentages, measures of relationships, and significance should be entered in appropriate tables, charts, and graphs, as explained above, to show the findings (London 1973).

The final step in the follow-up study process is the preparation and distribution of the follow-up study report. No follow-up study can be very useful until its findings are organized and reported in a meaningful form. The report should be written in objective, concise, and simple terms.

The follow-up study report should begin with an introductory section explaining the purpose, limitations, and scope of the study, how the study was made, and its importance to students, the institution, and the community. The findings of the study, shown chiefly in tables, charts, and graphs, should be organized into logical sections and then presented, interpreted, and explained in simple language. Comments and suggestions which were not shown in tables should be placed in a separate section, or sections, with the frequency of each statement indicated.

Following the body of the report there should be a section in which the specific findings for individual questions on the questionnaire are summarized to provide answers to major study questions. For example, how many of the graduates went to college, how many are still in college, and how many dropped out? How many are employed, and in what occupations are they engaged? How does the occupational choice of the respondents at the time of the study compare with their occupational choice while in high school? How do the occupations in which the ex-students are engaged compare to the occupations for which they were prepared?

A conclusion is a logical generalization based on one or more findings. What conclusions can be drawn from the study with respect to the guidance services, the instructional program, the curriculum, or any related matter covered by the study? These conclusions should be thought out carefully and stated in simple terms.

A recommendation is a suggested or implied course of action judged to be logical and desirable in view of the findings and conclusions of the study. The report should conclude with a list of recommendations for action. This list does not need to be a long one; in fact, it will probably carry more weight if it is limited to not more than a half dozen statements.

When the report is written it should be proofread and preliminary copies made for review by the members of the follow-up study committee and the administrative staff. Then it should be discussed by the committee, and the necessary corrections or alterations made.

The report can serve no useful purpose until it is made available to those who need to know its contents. The report should be distributed as soon as possible to board members, administrators, faculty, counselors, interested parents and students, and other interested persons and agencies. Copies should be sent to the Library of Congress in Washington, D. C., to the State Department of Education, to magazines in the field of vocational guidance and vocational education, to college and university libraries in the state, and to the Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210.

USE OF FOLLOW-UP INFORMATION

This information provided by the follow-up studies can provide reliable data regarding the success of former students who matriculated to the next higher level of occupational education or who immediately entered the labor market. It can justify subject requirements for graduation or give support to the traits and competencies required for successful job entry. It can provide firsthand evidence of the effectiveness of the teaching methods and the relevance of the material included in the courses. It can provide facts upon which to develop and organize course content, establish performance standards, and suggest a means of planning new curriculums and other extensions of educational services.

Follow-up studies can provide the counselors with a factual basis upon which to advise students regarding career choices, sources of further occupational education, course selection, extracurricular participation, and success expectation. It can provide the administrators with facts upon which to base policy decisions and identify gaps in the educational sequence. In total, follow-up studies can provide the majority of the information needed to develop good articulation between the various levels of occupational education.

CONCLUSION

All of the information provided by follow-up studies is ultimately designed to provide information which will enable the educational institutions to better serve their students. If the students are to benefit, it follows that the methods used in helping them toward the attainment of their goals will also be improved. The essential goal of this type of study is an institution sensitive and attentive to the needs of its students

Meaningful articulation between different levels of occupational education will shortly become, if it is not already, a public mandate which educators can ill afford to disobey.

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ADDITIONAL SELECTED PAPERS

AN OCCUPATIONAL ASSESSMENT MODEL: INSTRUCTIONAL ACCOUNTABILITY FROM THREE ANGLES

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INTRODUCTION

Occupational assessment or evaluation will become the process by which decision making can take place within the realm of managerial activities which will allow for positive decision making, planning, modification, and revision of postsecondary programs. This process may take place at the administrative level as well as the teacher levels. Such a process of keeping proper records of collecting various data eventually leads to accountability, accountability being the documentation of the relationships of input (resources) to outputs (products).

The following article will cover various aspects of accountability at the postsecondary level. Many vocational or technical teachers realize there is a need for instructional accountability. However, there are those who continue to ask if such a need exists and how they may be held accountable? To help answer this universal question, the writer will briefly cover the need for instructional accountability. The next aspect to be covered is that of planning for a model, its organization, execution, data collection and analysis, and, finally, an evaluation of the model as it relates to program effectiveness.

NEED FOR INSTRUCTIONAL ACCOUNTABILITY

Leon Lessinger, a noted authority about educational accountability, uses the following definition:

> Essentially accountability means that schools: (1) set goals of concrete, measurable improvements in pupil performance; (2) subject results to an objective audit or evaluation; and (3) report results to the public in clear terms. . . Accountability is a process in which an agent, public or private, entering into a contractual agreement to perform a service, will be held answerable for performing according to agreed upon terms, within an established time period, and with a stipulated use of resources and performance standards . . . . Accountability means the ability to deliver on promises (North Carolina State Department of Public Instruction 1972, p. 1, Appendix A).

Accountability has come into focus because of demands being placed on the educational system by various publics. Twenty-five to 30 years ago most people could get along reasonably well regardless of the quality or type of education they had received. From a traditional standpoint, those who had achieved academically went on to better things. The dropout usually had no trouble finding employment.

World War I and II, the depression, and other sundry things helped hide the fact that education was for a select few. Due to the constant flux of change that pervades our educational system, as well as society in general, various demands have been placed on our educational system--of these demands educational accountability has been the outcry of various publics. These publics--lawyers, lawmakers, parents, students, society, industry, militant ethnic minorities--have called on all educators to become accountable for their actions.

PLANNING FOR THE MODEL

The key word in planning for any change, whether it involves a new model or any other endeavor, is "involvement." Involvement leads to acceptance.

Acceptance leads to success. Administrators can help make or break any educational program. They must become involved to the extent they understand the role and responsibility they have in helping to plan, establish, and maintain any accountability model. Their main interests lie in their expectation that such a model will render data useful to them in the planning and decision-making process. Such a process is mainly concerned with securing input (resources), their allocations, expenditures, budgeting (cost efficiency), and output (the product).

While administrative decision making encompasses an entire school, a district, and many programs, most teachers will be concerned with the accountability of the program for which they agreed to be responsible. Teachers at the postsecondary level have been hired on the competencies and expertise they have to offer. To help them set standards for their programs and to help them maintain an up-to-date program, many teachers use active occupational/craft advisory committees. Because occupational and craft advisory committees are composed of competent persons working within a given occupation or trade area, their input is invaluable in helping the school maintain progressive and relevant programs. Another big asset is that many advisory committee members are the purchasers of the school's product. Thus, the committee also becomes one of the biggest public relations factors any school program could hope for. The involvement of these members in the development of an accountability model not only helps them understand the complexity involved but helps them to establish a clearer understanding of the term accountability as it relates to the school's program and to the various restraints within which the school and its programs have to operate. After all, they are part of the publics demanding educational accountability. In another sense they are partly accountable, too.

Other interested parties such as school boards, boards of trustees, industry, society, employers, parents, and students all have important roles to play in planning for an accountability model. Involvement helps to place a certain degree of accountability on their shoulders as well. A general advisory committee composed of a cross-section of these people (publics) will also help them establish a clearer concept of the demands for educational accountability that they have placed on the educational system. In many cases, administrators would be the ones using general advisory committees. Their inputs are a valuable asset to any school.

In planning for the model it is usually best to call the craft occupational advisory committee together in a meeting to obtain their input into what objectives they feel are relevant to the program being offered. In many instances they will help in setting the minimum standards a student should possess in order to be acceptable to industry. Not only will they help set standards for the job/occupational skill required, but they will help set the attitudinal traits and characteristics students should possess to be ready at minimum job entry level.

ORGANIZATION OF THE MODEL

After meeting with craft or occupational advisory committees and establishing realistic objectives and goals for each program, each instructor can analyze the specific performance objectives to the extent they can be developed into broader tasks or jobs. For example, having a student maintain, install, trouble shoot, repair, or replace a circuit in a piece of electronic equipment gives a broad picture of the skills the student possesses. The skill portion of the instrument would contain broad performance objectives and could be the averaged ratings of smaller specific objectives in a particular unit of instruction. As the student progresses in each phase of the program, a chart should be kept on his attitudinal traits, i.e., dependability, responsibility, attitude toward the job and others such as cooperation, scholastic aptitude, etc. At the end of the training program the instructor can profile the skills learned and the various traits and characteristics demonstrated while in training.

Once an instrument is drawn up for the purpose of objectively grading each student, it can be slanted so the teacher records grades on one instrument. The second instrument, identical to the one the teacher uses, is slanted to ask the student to grade his training in terms of how it has enabled him to perform on the job. Also, the student is asked to grade himself on the same traits and characteristics that the teacher has graded him on.

Likewise, the employer, or for that matter, a teacher in a more advanced course, is asked to grade the student's skills, traits, and characteristics. With this approach, the instruction given in the program can be viewed from three angles, the *instructor*, the *student*, and the *employer* or another teacher.

EXECUTION AND DATA COLLECTION

Many states have now required each school district to provide placement services to its students. Some states, such as Flordia, have what is known as occupational placement specialists, who usually are under the jurisdiction of the school counselor. When students enter a program, they can be given a packet to give to their new instructor. This packet contains the three forms to be used by the instructor for grading purposes. Each form could be color coded in order to produce efficiency in the process. As the student goes through the program, the teacher evaluates and fills out the teacher evaluation form. When the student completes the program, the packet is sent back to the counseling center. The placement officer is able to profile the skill proficiency, traits, and characteristics demonstrated by the student. Once the profile is completed, the placement officer has a composite picture by which to sell the student to prospective employers.

After the student is placed on the job and has worked anywhere from six months to a year, the new employee is asked to rate the degree to which the training he received has enabled him to function on the job. The employer is asked to do likewise. When the inventory is completed and the instruments are sent back to the school, the placement officer correlates the three instruments and analyzes the data.

DATA ANALYSIS

Data analysis should focus on how well the student has been trained and is functioning on the job. To zero in on this information, an inter-item analysis could be completed for the three instruments to determine the following:

- whether instruction has been adequate
- whether the program needs revision in its entirity or in some particular area(s)
- if the placement officer has done a good job of placing the student according to skills, abilities, traits, and characteristics.
- if the placement was bad to begin with
- whether the student (employee) has a psychological hang-up
- a comparison of instrumentation between (1) teachers and students, (2) teachers and employees, (3) students and employers, and (4) students and students
- whether teachers are grading easy or hard
- whether too little or too much time is being spent in covering a particular area of training
- whether the program is accountable and meeting its obligations to students and employers alike and,
- whether or not the students were placed into programs that actually did not interest them.

TOTAL MODEL AND PROGRAM EVALUATION

Evaluation is a *process of gathering* data leading to accountability, which is the actual *process of documenting* needed data from which various management decisions can be made. Programs can be evaluated in terms of an accountable and objective approach. Each program can be viewed for its strengths and weaknesses. Programs can be compared across school districts and eventually across any state. States could be compared to other states thus showing the far reaching effects of accountability.

CONCLUSION

Just as evaluation is a tool for gathering data, accountability is a tool for documenting whether or not the institution and its instructors are doing the job they have promised to do. It is a tool that can be used to objectively show whether or not inputs are comparable to outputs in terms of utilization and efficiency. Furthermore, it is an effective tool for building a new image for any educational endeavor that is out to meet the needs of those it purports to serve, and last, but not least, it can build up and gain the confidence, trust, and respect of the publics supporting it.

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ASSESSMENT AND CREDIT GRANTING FOR OUT-OF-SCHOOL LEARNING

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> Training is everything. The peach was once a bitter almond; cauliflower is nothing but cabbage with a college education.
>
> Mark Twain

Ever since higher learning began to include formal coursework, educators have felt an obligation to insure that every student takes all specified courses in a particular degree program. This obligation has traditionally extended to experienced and inexperienced students alike. If an individual were seeking a degree, he or she would be required to attend classes, complete assignments, and perform in other academic ways even if life experiences could easily substitute for certain course content. Unfortunately, in this situation, the student has suffered the most.

In recent years, credit-by-examination has been instituted as a means of enabling qualified students to acquire college credits without taking all required formal instruction. While serving as a step in the right direction, this process has, for the most part, been limited to basic academic subject matter areas with a focus on assessment of cognitive achievement. In this case, a student would be permitted to try "testing-out" of a certain number of basic courses, particularly those classed as general education.

A more contemporary concept of credit granting includes the practice of awarding credit for life and/or work experience. This approach is based on the premise that "learning that takes place outside and prior to enrolling in postsecondary institutions can merit academic credit when it is properly demonstrated and validated" (Meinert and Penny 1975). Credit-granting in the contemporary sense is particularly well suited to today's student. If he or she has had exposure to a number of relevant areas outside the school setting, this life experience may possibly be formally recognized and the student properly rewarded for achievement. However, benefits can also accrue for the postsecondary institution. Once a plan for systematically assessing life and work experience has been implemented, it is likely that a quality control system will emerge which is more meaningful for all students. At the same time, faculty members should be in a better position to advise students away from courses that duplicate life experiences. Knowledge of what experiences may substitute for courses aids both in planning the students' programs and in scheduling courses throughout the year.

This paper has as its central theme the means by which out-of-school learning may be assessed and constructive credit awarded based upon this learning. Initially, approaches to the assessment of out-of-school learning are detailed. Next, various sources of potential credit are examined. Finally, the post secondary institution's credit granting component is discussed and the future of credit granting is presented in terms of alternate directions.

APPROACHES TO ASSESSMENT

Assessment represents the core of any credit granting system. Even though a postsecondary institution may have devised an array of sophisticated procedures, student assessment must be both relevant and accurate. If not, the system itself will become dysfunctional. Several basic concerns may be raised about any assessment of out-of-school learning. These include the various ways that out-of-school learning may be assessed, the validity of these assessments, and potential problems in administering assessments. In order that these concerns may be properly addressed, each is considered in relation to some of the most frequently used assessment processes. While it is recognized that an assessment and credit-granting program may include a variety of assessments, it was deemed most beneficial to discuss each individually. Those who contemplate using several assessments in their programs should consider individual as well as cumulative impact of instruments. This is extremely important since one instrument may duplicate another or assess some learning dimension in a more realistic manner. The various types of assessment chosen for discussion include standardized tests, locally developed tests, the student narrative, and committee evaluation. These are perhaps representative of the kinds of assessments that are being used to determine if and how much credit should be granted for out of school learning.

Standardized Tests

The extensive use of standardized tests in evaluation is well known. This sort of assessment has been conducted for many years in conjunction with admissions, placement, and achievement. Standardized tests have a number of inherent advantages. Typically, they have been produced by professionals and have been field-tested with large numbers of students. Furthermore, each test has usually met rather rigorous validity and reliability standards (Davis 1974). As far as the postsecondary institution is concerned, standardized tests are relatively easy to administer and score.

There are, however, some basic shortcomings to the standardized test. First, the relevance which test content has to course or program content may often be questioned. This is perhaps of lesser concern for basic general education courses than applied technical courses, since many standardized tests deal with areas such as verbal and numerical ability. At any rate, it is of paramount importance to be sure that test and course content align, a sometimes difficult if not impossible task. The problem here is that standardized test scores may be somewhat artificial indicators of life experience achievement. A case in point is the use (and perhaps misuse) of the CLEP. Although this examination has been administered by numerous institutions across the country to assess the amount of life experience credit which should be awarded to students, there is much debate about the validity of its content for this purpose (e.g., Caldwell 1973, Galfo 1974, Caldwell 1974). Basically, when any standardized test is being considered for use in the credit-granting process, the user should look closely at test content in relation to course and program content. This will help insure that assessment is not an artificial process.

A most obvious shortcoming of the standardized test is its lack of relevance to applied areas. In fact, very few (if any) tests are available that assess performance in areas commonly associated with community college occupational education such as drafting, electronics, and business and office occupations. There are several reasons for this state of affairs--namely, a relatively small market for tests in these areas and the high cost of producing such a test. This means the occupational teacher must usually look elsewhere for help in assessing life experiences.

Locally Developed Tests

Since instructors in postsecondary institutions often find that standardized tests do not meet their assessment needs in applied areas, they are often obliged to develop their own tests. Although the locally developed test has several advantages over its standardized counterpart, most important is the fact that it can contain content which is more relevant to both life experiences and course content. Tests that have been properly constructed and administered at the local level can serve as meaningful indicators of performance in a variety of applied settings.

In a sense, it is best to develop tests at the local level which focus on assessing performance. Performance tests are usually not available through regular channels (e.g., *Mental Measurements Yearbook*) and they are sometimes the best means of "getting at" applied performance. If, for example, it is desired that the student demonstrate performance (either course or life experience) in administering medication or trouble shooting an electronics component, the performance test with its applied focus is much better suited to this purpose than a typical standardized test.

One area of concern with regard to performance assessment is the time taken to develop a valid test. Unfortunately, a sound performance test cannot be developed unless steps are taken to insure that validity and reliability indices have been established, and this usually takes a great deal of time. Basic development procedures, which are well documented in another paper (Finch and Impellitteri 1971), include developing measurable objectives, selecting the appropriate measurement strategy, determining the type of measure to use, developing a prototype test, and establishing validity and reliability. These procedures must be followed if one intends to make a meaningful assessment of performance.

Another concern which may be raised about performance tests is the time spent on administration. Unlike the commonly used paper and pencil test (e.g., true-false, multiple choice), a performance test is typically administered to individual students and requires that they be tested over rather lengthy time periods in areas separate from the regular classroom. The reason for this is a need to actually assess application and do this under rigidly controlled conditions. Whereas the pencil and paper test may be given to students sitting at separate desks, a performance test requires students to be at separate work stations using their own materials, tools, equipment, etc.

Student Narrative

Many postsecondary institutions are assessing noncollege learning by obtaining written statements from students describing their experience and/or learning. This statement is commonly referred to as the student narrative. The narrative may range from a simple essay to an extensive portfolio including a complete vita and documentation, such as letters of reference, proposals, evaluations, and personal folders. Several excellent examples of narratives are provided by Meyer (1975). These examples, together with directions for completing narratives provided by four institutions serve as meaningful input for anyone who intends to use this assessment process.

The student narrative is particualarly useful when there is a need to assess work experience with regard to time spent, duties performed, and general levels of performance. It enables the evaluator to determine whether a student performed the same duties each year for 10 years or performed many different and progressively more demanding duties during that time span. The student narrative is not meant to supplement the performance test. Instead, it should be complementary. Although the narrative is not designed to assess specific performance, it can get at many areas associated with this performance such as interpersonal relations and supervisory skills. It might well be that a student has worked in an area for several years and is technically competent but does not work well with others. By using both types of assessment, more realistic kinds of data may be gathered. If credit granting is based upon performance in a more generic context, the narrative, together with performance testing, should constitute a very dynamic duo.

Since the use of student narratives in assessment is relatively new, several procedural questions about this process are yet to be answered: What should the narrative include? Who or what group should evaluate it? How are various aspects of the narrative equated with college credit? How does a student's ability to communicate in writing affect the amount of credit granted? These questions probably reflect the character of a narrative because it is, in part, extremely objective but also includes much which is very subjective. Perhaps the best way of dealing with this problem is to develop guidelines for the narrative that closely align with specific criteria for credit granting. Then, after the student prepares his/her narrative, various designated parts can be checked against these criteria. For example, amounts of credit can be specified in relation to successful supervision of x employees for y years with more credit granted for a greater number of successful years in supervision. The point to be made is that the narrative and the specific area for which credit is to be granted must both be clearly delineated. This will insure that assessment is realistic and meaningful to the institution and the student.

Committee Evaluation

Assessment via committee is a process which is most often used (and abused) by evaluators. This particular approach can serve as the sole basis for assessing out of school learning. However, it is usually combined with other types of assessment when information is being gathered for credit-granting decisions. A committee can be used to assess student learning in a meaningful manner, but only if care is taken to establish proper procedures and standards for its operation.

As with any group process, it is imperative that persons selected for committee membership are knowledgeable about the area to be assessed. This means, if a specific type of work experience is to be evaluated, committee members should know what kinds, amounts, and levels of performance will be acceptable for credit. If they do not have this basic capability, the assessment will surely be invalid.

As the foregoing implies, there must be a clear indication of what criteria are to be used in the assessment process. Only then can a committee function as it should. Criteria should be stated explicitly and made available to all committee members so that a meaningful evaluation of experience is insured.

Perhaps the greatest utility of committee assessment is possible by combining it with other approaches to evaluation. If the student narrative and test scores can be provided to a committee as input for decisions, the group will have a much greater capability to make valid credit awards. A committee that has access to "hard" data will most certainly find that their job is easier, more enjoyable, and more rewarding.

SOURCES OF POTENTIAL CREDIT

Any postsecondary institution that is planning to implement a comprehensive credit-granting program must give major consideration to the various ways out-of-school learning may take place. Just like assessment, there are several sources of potential credit. In this paper a number of these have been identified and briefly described so that institutions may give thought to the broad range of possibilities open to use. These sources of potential credit include military experience, on-the-job experience, travel, previous course work, avocational study, and independent study. While it is recognized that there may be other sources of potential credit, the ones to be discussed seem to emerge as the most relevant and useful to credit granters.

Military Experience

The military experience seemed to be prominent among those areas applied for credit at postsecondary institutions. As part of this military experience, persons may submit for credit course work taken from or through the United States Armed Forces Institute. Military service schools, workshops, or seminars taken in connection with the job classification serve as another area of consideration. In each case, the student's official military service record is typically used as the basis for documenting out-of-school learning experiences.

On-the-Job Experience

Another source of potential credit consists of on-the-job experiences other than those accumulated through military service. Experience gained in a given trade area, health occupation, business or office occupation, or other job experience is a source for which credit is frequently requested. Both professional and nonprofessional experiences are included. Documentation of these experiences consists of listing information such as job title, number years of experience in each job classification, supervisor's name, company name, duties, and responsibility of the job. Employer evaluation is usually requested by the institution which is evaluating on-the-job formal learning experiences for credit. Company sponsored workships, seminars, or other on-the-job formal learning experiences constitute another area for which credit is requested.

Travel

Travel abroad or within the United States that can be evaluated as contributing to a person's personal or professional growth is another source for which credit is sometimes requested. Living in a foreign country and being exposed to the language, culture, and customs in that country are aften considered as meaningful life experiences when credit is being granted.

Previous Course Work

Previous course work accumulated at other post-secondary institutions whether at the university, junior-community college, or technical institute is another possibility. The College Level Examination Program (CLEP) examination seems to be the most prominent method of assessing previous course work.

Avocational and Independent Study

Another possible source of credit is avocational and independent study or, as it is sometimes called, nontraditional study. A high degree of knowledge and/or skill developed through hobbies or other kinds of independent study serves as another basis for granting credit. Cross (1973) reports that nontraditional study is defined by the Commission on Non-Traditional Studies as "an attitude that puts the student first and the institutions second, concentrates more on the former's needs than the latter's conveniences, encourages diversity of individual opportunity, and deemphasizes time and space or even course requirements in favor of competence and where applicable, performance."

Licensing

Licensing for certain vocational and technical education graduates appears to be another possible future direction. While the support for requiring licensing of graduates has received mixed reactions, this would most certainly appear to be a sound basis upon which to grant credit for out-of-school learning. If a student is already licensed in the occupation or field of work, a certain amount of credit may be allowable on the basis of the license. This would assume, of course, that sufficient safeguards had been provided for in the licensing procedures.

Whatever the source of potential credit, the most important consideration is "how to equitably convert educational or life experiences into academic degree credit-hour equivalency after the fact" (Meinert and Penny 1975). This is a basic challenge presented to institutions desiring to award credit for out-of-school learning.

A CREDIT-GRANTING COMPONENT IN THE POSTSECONDARY INSTITUTION

How then might a postsecondary institution actually structure the credit-granting process? Although there are several ways to assess out-of-school learning and numerous sources of potential credit, these must fit into a larger context if a comprehensive credit-granting process is to emerge. One logical means of achieving comprehensiveness is through the designation of a credit-granting component which is charged with the responsibility of student assessment and awarding credit based upon that assessment. Two factors which seem basic to this component are its central administration and emphasis on systematic assessment.

Central Administration

A central location within the postsecondary institution's organizational structure seems essential to an efficient credit-granting process. One logical location would appear to be in the student personnel service division. Through institutional policy action, this division could be granted authority to develop guidelines, operational procedures, and any rules and regulations for all credit granting activities.

Several advantages may be realized by locating all credit granting activities in the student personnel services. They are: (1) access to all student records including preadmission records, (2) knowledge of each degree program requirement in terms of prerequisite courses and minimum and maximum requirements for both academic and specialized technical courses, (3) availability of psychometric testing and academic counseling, (4) online computer capability for records processing, and (5) the division's concern and interest in the instructional activity of the institution.

All major elements in the institution (faculty, administration, students, and the governing board) should develop a philosophical position about granting credit for out-of-school learning experiences. This is useful, since some educators view the concept as an effort to lower academic integrity. Once a philosophical position has been adopted, faculty members and appropriate members of the administrative staff, including student services, should be delegated authority by the governing board to recommend policies, guidelines, procedures, and rules and regulations for adoption. These statements of policy and guidelines should clearly identify acceptable out-of-school learning experiences that will be considered for credit, the maximum amount of credit that can be granted, how the out-of-school experiences will be evaluated and by whom, how and where applications or requests for credit should originate, what status the student should have within the institution (i.e., freshman or sophomore standing, half the required credit hours completed, grade point attained), when in the student's program credit may granted (i.e., before the end of the second quarter, at the beginning of the second year, during the last quarter). Also included should be a fee structure for evaluating credits and the means of recording credits on the transcript.

If oral or performance assessment is necessary, determination of the content and a judgment about the student's performance or level of competency should be made by faculty. The content of written tests should also be determined by faculty. Coordination of assessment activities and the record keeping and processing function should be the responsibility of student personnel services.

Systematic Assessment

Phelps and Swann (1975) report that at the University of Georgia each entering freshman is furnished with a computer printout of all preadmission and achievement test scores prior to registration. Those who show sufficient achievement may be exempt from taking certain freshman level courses. This is useful to the student and his/her advisor in planning the student's program of studies. Granting credit for out-of-school learning might well be more systematic if each institution could determine prior to actual admission those experiences for which credit could be allowed. For example, the student may wish to request credit for experience gained in the military service. If, prior to admission, an assessment of his/her skills could be made, it would be possible for the student to know exactly which additional courses he/she would be required to take and the time frame for completion of degree requirements.

For assessment to be systematic, the experiences for which credit may be granted should be clearly identified and deviation or exceptions from those so identified kept to an absolute minimum. As Meinert and Penny (1975) indicate: "many emphasize that it is the learning resulting from the experience that merits academic credit, not the experience in itself." Any assessment process should recognize this as being a central concern. If the experience for which credit is requested suggests that it might be best to examine a portfolio documenting the experiences, each student should be required to have all of the requested materials for review. The assessment process should be the same for each student requesting credit for a particular kind of experience and deal directly with that which has been learned. What experiences may be considered for credit, how the experience will be assessed, who will make the assessment, the ground rules, and recording the assessment should apply equally to each student. Failure to treat each student the same may result in a breakdown in the concept, since some may be able to claim special consideration.

THE FUTURE OF CREDIT GRANTING

The future of granting credit for out-of-school learning appears to depend upon several factors. These include the continued credibility and integrity of current credit-granting efforts, further refinement of the concept and greater standardization of various processes among credit-granting agencies, more valid and reliable assessment techniques, and a clearer definition of what experiences can be realistically and fairly equated with the traditional credit hour.

While the concept is relatively new to many education institutions, it seems premature at this time to forecast a future of unqualified success. Included in the actual evaluation of its success (or failure) should be the formal comparative performance appraisal of those who have been given credit for their out-of-school learning and those who have accumulated credit in more conventional ways. Does one perform on the job with a higher degree of success than the other? Does one function in the citizenship role with greater effectiveness than the other? Is one more capable in applying skill and knowledge than the other? It appears that if the current credit-granting efforts of postsecondary institutions enjoy unqualified success, answers must be obtained to these and other evaluative questions. Otherwise, employers of prospective graduates and those institutions receiving transfer credits granted in lieu of their own course requirements will have good reason to doubt the credibility and integrity of the concept.

Future credibility and integrity of the concept might be also enhanced through greater refinement and standardization. Is 15 hours of credit for four years of drafting experience in the military service comparable across institutions A and B? Does institution A give only 9 hours instead of 12 if the student did not attend a drafting service school? It seems that some standardization of process could be achieved through existing state or regional accrediting agencies.

It was indicated earlier that a variety of assessment techniques and procedures are currently being utilized. This may be a first step in developing more valid and reliable assessments. Of those techniques being used at the present time, which has been able to demonstrate the greatest validity? Are the results of one particular technique more productive than another? It might be most fruitful for a longitudinal research effort to be initiated that will determine which techniques produce the most favorable results. This research effort could draw upon actual employers and graduates for relevant data.

The scope of experiences that can be realistically and fairly claimed for inclusion in the credit-granting process seems to have implications for the future. The more obvious and clear-cut cases present little or no problems. Shall credit be granted to a 40-year old student for the 40 years of experiences accumulated in that period of time? If a person should accidently stumble onto a different way of aligning color bars on their television set, can credit be granted in a television repair class? Some would contend that in both cases, credit should be granted. The key question that should be answered is: Are these experiences realistically comparable to the traditional or conventional postsecondary course work offered by the institution?

Alternate Directions

Competency-based education appears to hold considerable promise as one alternate future direction for granting credit for out-of-school learning. In the vocational and technical education setting, most psychomotor and cognitive skill can be measured with a fairly high degree of accuracy. For example, either the student can or cannot adequately perform a given job task or job routine. In short, competence can be demonstrated through overt observable behavior or it cannot. If competency-based education is extended throughout postsecondary education, it would appear safe to assume that tests will be devised and validated that would enable institutions to accurately measure a student's given level of competency along a continuum of competencies.

Implicit in the notions of competency-based education and standardization mentioned elsewhere in this paper is a third notion of standardized testing. It might be useful to explore the feasibility of creating an agency that could coordinate a national occupational testing effort. The National League of Nursing might serve as a model for such an agency. It would seem reasonable to assume that those competencies minimally required throughout the nation could be identified and continually updated as new technological and skill requirements change. Such competencies could be certified by a national occupational testing effort.

Several advantages of this proposed service come to mind. First, minimal competencies could be identified and continually updated. Second, the results would be comparable throughout the nation. Third, competencies developed and validated in one part of the country could be readily transferred to another part with a high degree of confidence both on the part of those requesting the credit and those granting the credit. Reduction in the time and effort a postsecondary institution would spend assessing out-of-school learning could be another advantage. Paper and pencil tests of cognitive knowledge and performance test procedures could be prescribed for local institutions or administered by a national service, thus reducing effort needed at the local level.

CONCLUSION

There seems to be little doubt that the practice of granting credit for out-of-school learning experiences will continue. This is based upon the premise that, as procedures and processes become more standardized and systematic, institutions will feel more secure and become more realistic and liberal in what and how much credit is granted. Validation of assessment techniques, the specific competencies to be assessed, and realistic translation of experience into conventional credit hours appear to be issues that need further study before institutions will be comfortable with expanding credit for out-of-school learning experiences. However, postsecondary institutions *have* made great advances in the assessment and credit-granting process. This is indeed an excellent start which, it is hoped, reflects a commitment to excellence in this area.

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IMPROVING ARTICULATION IN VOCATIONAL AND TECHNICAL EDUCATION: USES OF EVALUATIVE RESEARCH

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INTRODUCTION

All social systems and institutions, whether they be educational, political, religious, or economic, are required to provide evidence of their legitimacy and effectiveness if they are to justify societal support. Fundamental changes in each of the aforementioned areas have created an increasing demand for evaluative research that relates to both the intent and structure of social and educational programs.

As a social institution of some significance, education has been pressed by both internal and external sources to provide evidence of the extent to which programs meet the challenge of preparing individuals for participation in life. Professionals within the system (administrators, supervisors, faculty, and other educational specialists) cite the need for developing educationally sound programs designed to maximize the effectiveness and efficiency of the instructional process. External critics (parents, governmental and funding units, sponsoring agencies, certifying agencies, and the general public) recite the familiar rhetoric of attention to individual development, the need for involvement in continuous and participatory learning experiences, and the desire for programs that provide relevant knowledge.

As a program operating within the total framework of education, vocational and technical education has been particularly susceptible to criticism. Challenges to its philosophy, organization, area content, and "product" performance proliferate. A recital of the litany of criticisms and rebuttals is outside the scope of this paper, and readers who wish to address themselves to such are referred to the literature of the field. Of greater concern to the writer are issues relating to the improvement or development of instructional programs in vocational and technical education, programs which may be designated as both efficient and effective via the utilization of evaluative research.

EVALUATIVE RESEARCH: A DEFINITION

The term evaluation to most educators elicits connotations which range from the highly simplistic to complex experimental designs. As a consequence, the suggestion of using the results of evaluative research to improve articulation may seem, at first glance, unreasonable. Further exploration of the nature and intent of evaluation may prove useful to the content of this paper.

Evaluation has been alternately defined as "the process of delineating, obtaining, and providing useful information for judging decision alternatives" (Stufflebeam et al. 1971, p. xxv) and "the determination of the results attained by some activity designed to accomplish some valued goal or objective" (Suchman 1967, p. 32). The two references cited do not constitute the entire list of definitions available in the literature, rather, they serve as examples which are reflective of four key dimensions inherent to most definitions: (1) Evaluation is a process, (2) Evaluation involves the utilization of criteria, (3) Evaluation is goal-oriented, and (4) Evaluation implies utilization of results in a decision-making capacity.

Expansion of points one and three is superfluous at this point: that evaluation is a process which is goal oriented is straightforward and requires no further explication.

Point two, which involves the use of criteria, needs further definition. Evaluative research may be conducted in terms of different categories of effect. These categories represent the criteria of success or failure according to which a program may be evaluated. Paul (1956) identifies three major sets of criteria: those which involve an assessment of *effort*, those which involve an assessment of *effect*, and those which involve an assessment of *process*. Wright (1955) adds additional dimension to the classification of criteria by discussing *effects* (the ultimate influence a program has upon a target population such as students), *effectiveness* (the ability of a program to be carried out to successful conclusion), and *efficiency* (how well and at what cost the program was conducted).

Point four emphasizes the intent of all evaluation efforts, whether they be formative or summative in nature. Evaluations are conducted to provide information for decision-making to either improve the educational process or determine its effectiveness in achieving stated objectives.

In summary, evaluative research indicates that educational programs must be analyzed for their efforts, their effects, their effectiveness, and their efficiency. The process of evaluating programs must include attention to the utilization and assessment of stated criteria, and the employment of results in educational decision-making.

APPLICATIONS OF EVALUATIVE RESEARCH

The utilization of evaluative research to improve curricular or program planning in vocational and technical education has reached an impasse: many planners verbalize its value, yet few utilize it. The rationale which underlies this paper attends to this issue. Evaluative research has indicated the criteria which must be considered when evaluating the performance of an existing instructional program. The criteria, however, possess additional value. Attention to evaluative criteria during the program planning or development phase may serve as guides to improve the effort, effect, effectiveness, and efficiency of vocational and technical programs. The intent of the remainder of this paper is to provide the reader with guidelines for incorporating the previously mentioned dimensions into the planning and decision making integral to instructional development.

Central to the issue of applying evaluative research to instructional planning is the utilization of questions (later transformed into criteria) related to the dimensions of effort, erfect, effectiveness, and efficiency. The development and use of questions related to each of the categories will provide the program planner with valuable information which encompasses both the intent and structure of the planned program.

Criteria of effort relate to the most identifiable feature of evaluative research: the presence of goals or objectives whose measure of attainment reflect upon the value of the program as it relates to its function or purpose. Questions typical of criterial assessment of effort are: Can the program be established? What is the intent of the program? Will the program satisfy stated needs? Can the program function within the educational system for which it is planned? What is the relationship of the planned program to other existing educational programs of similar intent? Can the program function within the educational system for which it was planned? Are costs associated with the program within budgetary limitations? The reader can, no doubt, develop additional questions which relate to effort.

Criteria of effect measure the result of effort rather than the effort itself and, again, require clear statements of objectives. Questions which typically fall within this category include: How well will the planned program satisfy the objectives of instruction? What evidence will be available that will assist in the determination of the extent to which program goals were attained or are attainable? How well does the planned program provide for student achievement of instructional objectives within the content area in the cognitive, affective, and psychomotor domains?

Criteria of effectiveness refer to the degree to which program performance is adequate to the total amount of need. A crucial measure of effectiveness is the ability of a program to meet a societal need. Some questions relating to the criteria of effectiveness in vocational and technical instruction are: Does the planned program attempt to meet the manpower needs of the community for which it was designed? Will graduates of the program be available in sufficient numbers? Will graduates possess the needed skills that will render them valuable to the community they will serve? A caution must be inserted at this point. Criteria of effectiveness need to be tempered with a realistic awareness of what is possible at any given time and must include attention to other constraints (fiscal, administrative, facility, and others) which mediate the determination of the adequacy of a planned program.

Two questions are critical to all discussions of *criteria of efficiency:* Is the program, as planned, operational? Is there an alternative method of attaining the same results? Efficiency is concerned with the evaluation of alternative paths or methods in terms of costs and is, in a sense, the capacity of a planned program to produce results in proportion to effort expended. Efficiency criteria/questions may well become the crucial aspect of future program planning as competition increases among existing or emerging institutions at the secondary and postsecondary levels. Duplication of programs in the field of vocational and technical education (where cost of instruction is often higher than general or liberal arts offerings) can often be circumvented through the use of efficiency criteria.

SUMMARY

The intent of this paper was singular in nature. Evaluative research has indicated the criteria which must be considered when the performance of an educational program is assessed. The criteria cited in the literature are most often used within the context of program evaluation, but the judicious use of identified criteria can provide the mechanism to assure educational critics of the efficiency and effectiveness of a vocational or technical offering *and* maximize articulation within the total fabric of vocational and technical education.

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PROBLEMS RELATED TO ARTICULATION BETWEEN ASSOCIATE DEGREE AND BACCALAUREATE DEGREE NURSING PROGRAMS

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STATEMENT OF THE PROBLEM

In view of emerging trends related to nursing education, an issue of direct concern is that of articulation between two popular nursing programs--the two-year community college and the four-year baccalaureate nursing programs. Moreover, the National Commission for the Study of Nursing and Nursing Education pointed to the absence of articulation as the most difficult problem that faces the nursing education system (Lyslaught 1970, p. 114).

Although articulation has many facets, this paper will capitalize on what should be its major and primary goal--to facilitate and enhance progress of students from one academic nursing program to another, in order that society's nursing needs will be met at the highest level of individual and collective ability.

BACKGROUND OF THE PROBLEM

Any proposal to effect an articulation concept must take into account the reality of the existing situation. Also, in order to understand why we stand where we stand today, a number of factors are significant regarding the genesis of the problem.

Inception and Growth Characteristics

Baccalaureate programs at senior colleges and universities have been in existence since the first decade of this century. From the time of their inception, baccalaureate programs had a difficult time being accepted by the academic community, who questioned whether the vocational nature of nursing qualified its placement in a college setting (Bullough 1973, p. 6). Consequently, nurse educators and others concerned with collegiate nursing education had to struggle to prove the worth of the baccalaureate programs in existence at this time. Later on, as the acceptance of these programs increased, so did their growth.

Associate degree programs are a more recent phenomenon, gaining in popularity during the last decade. These programs also met with what might be described as "growing pains." The existence of a two-year nursing program, which not only qualified one to take the state board licensing examination, but also provided courses leading to an associate degree did not agree very well with many registered nurses (RN's) and nurse educators. However, the American Nurses Association's (ANA) "Position Paper of 1965," which stated that minimum preparation for beginning technical nursing practice should be associate degree education in nursing (ANA 1965, p. 106), seems to have had a great influence on the rapid growth of community college nursing programs.

The fact that both programs experienced initial difficulties in acceptance and establishment grew rapidly has implications for articulation and deserve consideration.

For example, it would seem that the most urgent problem which each program faced centered around its day-to-day management and operation. The many facets of this endeavor created the need to deal with problems and concerns on a priority basis. Curriculum was probably the most fundamental concern. The selection, development, and subsequent teaching and evaluation of courses were all very time-consuming activities. As the related problems of mushrooming enrollments, coupled with the totally insufficient numbers of prepared nurse faculty, were also vying for concern, both programs' efforts were directed toward their very own existence and survival. As a result, if comprehensive long-range planning was neglected, it was because it came second to other more pressing concerns related to expedient functioning and operation. Furthermore, neither program seemed to have the time nor the foresight to conduct analytical studies or research. If indeed such were done, they were limited to each individual program and were conducted on a very small scale.

Initially, there appears to have been little notable communication or cooperation between the associate degree (AD) and baccalaureate degree programs. Each was conducted as a more or less autonomous enterprise, having its own purposes, problems, and concerns. As each was concerned with its own integrity, the need for collaboration or articulation was not evident; each program was considered to be independent, unique, and distinct, and functioned as such. However, this mode of operation, if allowed to continue today, could be a serious impediment to effective articulation.

Changing Social Pressures and Needs

Change is implicit in the human organization and now, more than ever before, nursing education is being affected and challenged by change. It is valuable to consider the social forces which are combining to change the long-standing traditional characteristics of nursing education programs.

Students

Today, the principles of personal freedom and equality of opportunity are demanding realization instead of mere verbalization. As a result, there is evidence of a need toward more flexibility in nursing programs. A greater effort and concern for a greater variety of age groups, socioeconomic classes, and groups with diverse work or study backgrounds is emerging. Increasingly, greater attempts are also being made to accommodate the student who chooses to combine study and work. Furthermore, it is also apparent that today's nurse or student does not necessarily feel "locked-into" an earlier career choice as his/her counterpart in the past. Initial goals are frequently modified by social, economic, and personal factors, and students or college graduates who change careers are requesting credit or advanced standing for what they already know. In addition, some students may even feel that to progress within nursing to the limits which their ability and interest will allow is their right. As a result, then, there are demands for greater effort and search to make curriculums more relevant and responsive to students' needs in accord with their abilities, changing career goals, and changing aspirations.

In the beginning, it was anticipated that only a very small percentage of AD nursing graduates might be motivated to seek further education in a baccalaureate program. Today, however, many more than had been anticipated are aspiring to higher educational levels. Without some form of intradisciplinary collaboration and planning between the AD and baccalaureate nursing programs, students may have difficulty in materializing their career mobility goals.

Society

While the social and professional mobility of the nursing student is an important concern, political pressure for these issues may need counter pressure by nurse educators to achieve balance. Patients' rights to care by competent practitioners supersedes students' rights to enter into a career for which they may not qualify.

Contemporary society's demands for quality care are apparent, and nursing must continue to provide its practitioners with knowledge which is sufficient in breadth and depth to meet these demands. This is not an easy task in our highly technological society, where knowledge is advanced at a rapid rate. As nurses are being called upon to assume new and added responsibilities and to broaden their scope of practice, they must be adequately prepared. To help provide this preparation, ample numbers of nurses must be in leadership positions, such as teaching, administration, and research.

Consequently, the challenge to forecast and supply the numbers and kinds of qualified nurse practitioners must be faced by nurses at both levels, AD and baccalaureate. It is just not enough for each program to do a good job independently. Talent, effort, and resources must be combined, and intercommunication between programs must be established, if nursing is to be held accountable for its services.

Others

It is easy to speak about cooperative working relationships, but it is not as easy to put them into effect. One of the sometimes overlooked barriers to effective articulation is the attitude of the faculties and administrators involved.

Some nursing faculties may be negative about the idea of career mobility through program articulation because they feel that this results in an unfortunate lowering of standards in the profession. Others, because of chronic pressure and fatigue, oppose innovations that will place even greater demands on their time and efforts. Still others may be cynical about programs which just "look good on paper." Finally, there are those who are discouraged by inability to carry out innovative plans due to lack of administrative support.

The attitude of administrators at the professional and/or institutional level can influence articulation positively or negatively. Some would argue that too many administrators are concerned with vested interests which are politically based and, consequently, will not lend support to programs which interfere with these interests. In other instances, administrators may be unreceptive to new ideas only because they have an inadequate understanding of their significance and importance. Most administrators would also probably be reluctant to institute programs on which they will lose money, i.e., waiving of courses and advanced placement.

As the articulation process is seen to primarily involve relationships between individuals whose attitudes and opinions may differ, it is important that those faculties and administrators involved do not lose sight of articulation's fundamental purpose--to facilitate the progress of students from one educational level to another.

Philosophic Differences in Programs

For the most part, any cooperative effort would seem to run counter to each program's tradition of independence. This is reflected in each program's stated purposes and objectives.

Baccalaureate nurses are prepared to assume what have been described as the more complex aspects of nursing care. As their education includes at least one half liberal studies and science, they are provided with a broad theoretical base upon which their nursing major builds. The nursing curriculum is arranged so that appropriate clinical knowledge and experience can be gained--usually in the latter two years of the four- or five-year program.

The AD nursing program is designed to prepare nurse practitioners at a level intermediate between the bachelor and the practical nurse levels. During the two-year program, courses in the liberal arts, sciences, and nursing are provided concurrently. The focus of this program has been described as being basic and less broad in scope. AD nursing graduates have been referred to as "beginning nurse practitioners," prepared to function in a less complex and more predictable patient-care situation.

The ANA Position Paper of 1965 used the terms "professional" and "technical" to respectively describe the baccalaureate and associate degree nurses. From this evidence, then, it seems that each program attempts to produce a particular type of nurse. As the baccalaureate graduate has unique knowledge and skills which distinguish him/her from others, an associate degree graduate has equally distinguishing characteristics. This is not to imply that one is more acceptable, or more important, than the other--the two nurses are just different.

Terminal vs. Transfer Program

A major problem with regard to articulation is the assumption that the AD nursing program is terminal. According to Montag, as the ADN program was originally envisioned and designed, it was intended to be complete in itself, the last formal educational program for the majority of students who entered it--a program which prepared for immediate employment (Montag 1971, p. 729).

However, as community colleges are more economically, financially, and geographically accessible to students than senior colleges, one can make a reasonable prediction that many more nursing students will begin their study in an AD nursing program, with the intention of later transferring to a baccalaureate program. As it now stands, however, the transfer process is not without problems.

Transfer Process and Criteria

One of the major factors complicating the transfer process involves admission criteria. As the average community college serves a highly heterogeneous group in terms of abilities, interest, motivation, etc., most are not highly selective insofar as admissions are concerned. On the other hand, baccalaureate programs have the tendency to be quite selective regarding admissions and adhere to established criteria and standards. Because these standards are not "standard" for all institutions, and since students do not always know to which college they will transfer, a real problem emerges. Added to this problem is the much debated and very controversial issue of course transfer, credit, and grades, about which educators of both programs do not always agree. Some are of the opinion that since the AD program is designed primarily for employment, not transfer, and is complete in itself, academic status is unearned and should not be expected. Others question just how far a junior college can extend itself in providing courses that parallel those of senior institutions. Still others believe that rigid requirements should be "loosened," with advanced competencies of applicants being recognized and validated. Some others argue over the matter of diverse grading policies. They question the granting of advanced standing or credit for courses and experiences, because grading practices are not equally rigorous in both programs.

It is evident that there are very definite transfer strains between these nursing programs, strains which may not always operate to a student's advantage. Consequently, each student must initiate and execute the transfer process between the institutions on his behalf. In doing so, the aforementioned are just a few of the obstacles he/she faces, which may result in undue frustration and disillusionment. Collaboration and cooperation among nurse educators at both levels might result in more democratic and realistic transfer agreements.

REVIEW OF THE LITERATURE

Inquiry into two broad areas, articulation and nursing education, was made. Although the concept of articulation is not new to the field of education, references to it in the nursing literature are not apparent until the early 1970's after which numerous references to the term appear.

Articulation--An Educational Concern

Today it appears that admission of transfer students by four-year colleges has reached major proportions. Beals conducted a study of community college freshmen in Massachusetts, which revealed that a significant number (over one-half) said they planned to transfer to a four-year college.

> Apparently, the two-year colleges are serving the role of the lower division function of a four-year baccalaureate program. Close scrutiny should be given by higher education state agencies and individual institutions as to how best to accommodate this high proportion of students who wish to transfer to four-year institutions. It seems that the vast majority of students view the community college as a steppingstone to upper division and post upper division work (Beals 1972, p. 6).

Warren K. Willingham of the College Entrance Examination Board gives further credibility to Beals' study when he observes that approximately one transfer student enters a senior college for every three freshmen. Of these transfers, over one-half come from two-year institutions (Beals 1972, p. 16).

Medsker points out that, as relations between two- and four-year institutions tend to focus on the transfer of students, lack of articulation presents serious handicaps to students. He emphsizes that the flow of students from one educational level to another involves much more than mere acceptance of credit. He goes on to state that the matter of effecting a transition within an optimum social as well as academic adjustment should be facilitated by preparation for it in the junior college and assistance toward it in the senior institution. Too often, both institutions are grossly deficient in this responsibility (Medsker 1958, p. 120).

Mennacher asserts that as community colleges are now important partners with senior institutions, mutual respect, cooperation, and planning between these two groups are a necessary condition for an adequately functioning educational system (1974, p. 201).

Forces Compelling Progress

Increasing Numbers of ADN Transfers

Overall, there would seem to be an undisputed trend toward increasing numbers of transfers to four-year colleges. In Beals' study (cited above), nursing ranked fifth in popularity among community college students who planned to transfer to senior colleges (p. 11). These disclosures, in addition to figures obtained from Marguerite Robey at the Research Division of the National League for Nursing (NLN), deserve attention.

According to Robey, over a four-year period from January 1, 1971, to January 1, 1975, the number of ADN graduates who received baccalaureate degrees more than doubled from 237 to 801. These figures would seem to validate the popularity of this channel for upward mobility. In addition, it also seems to suggest that more and more students in nursing may be completing their education in sequential stages, rather than following the more traditional once in, once out, pattern (Lenberg and Johnson 1974, p. 265).

Continuing Demands for Professional Nurses

In 1970, Dustan asserted that some major nursing problems remained unsolved, because the system had failed to produce enough college-prepared nurses to meet the professional component of nursing practice (Dustan 1970, p. 34). More recently the NLN has stated:

> It is evident that to meet health needs, nursing must have an expanded corps of personnel, made up of practitioners who have been prepared in programs that differ in purposes and length, and that prepare for varying kinds of practice, entailing different degrees of responsibility. Included in this corps must be individuals with a high degree of preparation who can make maximum contributions in all areas of nursing practice, in research, and in the education of nurses and other health personnel (1970).

To prepare the numbers and kinds of nursing personnel needed, a careful reevaluation of traditional educational practices is in order. Flexibility must replace rigid traditional practices, which may be inappropriate to changing needs and conditions. According to Hole, avenues whereby nurses may advance vertically into positions that require advanced academic education must be considered. This might result in a greatly reduced attrition rate (Hole and Scudder 1970, p. 1). As it now stands, many nurses may leave the profession for other occupational endeavors, because of inadequate opportunities for mobility and educational advancement. Furthermore, Milliken maintains that, from the standpoint of utilization of manpower, it is not practical to require persons with specific competencies to meet clock-hour requirements in order to qualify for credentializing (Milliken 1972, p. 17).

Movements toward Nontraditional Educational Patterns

In February 1970, the NLN took an unprecedented step in its adoption of the concept of "open curriculum." It stated:

> An open curriculum in nursing education is a system which takes into account the different purposes of the various types of programs but recognizes common areas of achievement. Such a system permits student mobility in the light of ability, changing career goals, and changing aspirations. It also requires clear delineation of the achievement expectations of nursing programs, from practical nursing through graduate education. It recognizes the possibility of mobility from other health fields. It is an interrelated system of achievement in nursing education with open doors rather than quantitative serial steps.

This stance, which is a radical departure from past educational practices, calls for increased flexibility in educational programs. It recognizes changing conditions and student needs and is in accord with the concepts of career mobility, equal opportunity, and educational diversity. It recommends the development of innovative educational programs based on evolving as well as present needs. Moreover, it encourages intraprofessional planning for nursing education and recommends that faculties at different educational levels collaborate with each other to provide better coordination of services and improvement of practice.

As legislators begin to look at the cost factors in the education of health workers, we can anticipate changes, *with* or *without* the input of nurse educators. In one state, the legislature is conducting a cost analysis of each program offered in the public educational system. According to Kelly, in some areas of the country, unions have joined with legislators in forcing nursing education programs to become more "open." Some state nurses' associations have reported increased activities aimed at such legislation (Kelly 1974, p. 2233). An outstanding example of legislative impact is in California, where requirements are spelled out for granting credit in nursing schools (especially to practical nurses) and also where selected corpsmen are permitted to take the licensed practical nursing (LPN) and registered nursing (RN) examinations without attending any nursing school.

Problems and Aspects of Articulated Nursing Education

Even though the need for articulation is evidenced and a readiness for collaboration and cooperation may exist, it must be emphasized that change is not a one-shot, overnight proposition. The impediments to effective articulation must be recognized before they can be overcome.

Innovative concepts in nursing education such as open curriculum, career ladders, and career mobility, seem to meet with some controversy. One of the severest opponents to such approaches is the pioneer and strong proponent of associate degree education for nursing, Mildred Montag.

> To develop a curriculum, one must have a picture of what kind of a person one is trying to prepare. With this picture clear, then all that goes into the currculum, is geared to producing this individual.

She goes on to suggest that the ladder concept implies a form of snobbery. With clinical specialists and doctoral degrees in nursing, asking for someone to give direct care to patients is like asking for the impossible. We say that this kind of care can be given by aides, and then at the same time, we want to push that aide to a higher level (1972, p. 729). Shetland's criticism of the assumptions and strategies of career mobility are similar to Montag's.

> The idea that status and dignity are achieved only by upward mobility, deprives all the steps along the way of any intrinsic satisfaction. Satisfaction and rewards become functions of moving out or up, rather than developing in any one position (1970, p. 33).

Nevertheless, while proponents of the open curriculum advocate that students be provided with the option for career mobility, it is important to be cognizant of the barriers which inhibit this mobility. Gillie makes reference to vertical and horizontal constraints as inhibiting articulation.

> Vertical inconsistencies occur when there is difficulty in maintaining continuity in grade levels within educational units, such as refusing to accept students who graduate in lower level institutions, or to accept only a portion of their previous course work. Removing such vertical constraints is of greatest urgence because of the social and economic mobility offered through education (Blau and Duncan 1967). Horizontal constraints occur when a student wishes to move into a program in a similar institution. Because of increased geographic mobility, both types of articulation are of great importance (1973, p. 12).

Markowitz states that while there are no regulations directly prohibiting a nurse from advancing her education, serious obstacles for the nurse wishing to move to a higher level program do exist (1973, p. i). Several ADN graduates, with whom this writer is familiar, have been required to wait as long as one year before being considered for admission to a collegiate program, becuase of the reported admissions backlog.

> Concomitantly, ADN graduates who *have* been admitted, unhappily report that they have had to repeat courses and experiences. Dustan makes reference to this by noting that students who select preparation in a community college program do not receive the equivalent of the lower division of a baccalaureate curriculum. Because their programs have limited science content, a certain amount of repetition is inevitable; but in terms of time, money, and frustration, this repetition is costly--to the student, to nursing faculties, and to society (1970, p. 35).

Advanced Standing and Credit

An articulated system would seem to call for measures that evaluate a student's acquisition of knowledge and experience. Katzell comments that if blanket credit is granted by an institution, probably no tests are needed (1973, p. 453). Johnson, however, conducted a study which revealed that credit-by-examination was the most frequently used method for advanced placement (1974, p. 3).

Kramer raises several crucial questions related to nursing students' advanced competencies. One is related to the extent of recognition in the form of college credits such students should receive for their former education. The granting of blanket credit is academically unsound, unless opportunity is provided for quality assessment or control. The polemic of those who take the "blanket college credit" position is that registered nurse students do come with some kind of advanced competency. However, the issues are: Advanced competency in what? How can such be assessed and measured?

> We believed a more effective approach to determining equivalency was first to decide what students in our basic program must achieve to qualify for graduation--knowledge, skills, attitudes, and other competencies--and then

> find out what each applicant seeking advanced standing has and/or still needs. We then require this applicant to engage in those courses and/or learning activities we believe will provide him/her with what is lacking (1970, p. 793).

According to Kelly, the term advanced placement, means that a student receives credit for courses offered by an institution of higher learning and thus is not required to take them. He or she is then, presumably, placed at an advanced level in the program. In awarding advanced placement to students, a number of standardized tests are being used (1974, p. 2234).

The nationally available College Level Examination Program (CLEP) has been used by some baccalaureate programs to assess general educational achievement and/or subject achievement of students applying for advanced placement (Katzell 1973, p. 454).

So far, it seems that New York has developed the only statewide credit-by-examination program in the nursing and health sciences--the College Proficiency Examination Program (CPEP). Schmidt and Lyons explain that the impetus for such an endeavor came from several groups--the state legislature, the State Board of Regents, and the New York State Nurses Association. All of these groups acted to explore the development of credit examinations in nursing. Even though examinations were developed and administered, it was emphasized that "any meaningful evaluation of an individual's competency in nursing subjects could not be limited to paper and pencil examination." The complex problem of valid and reliable techniques for assessing clinical skills still needed to be solved (1969, p. 102).

In granting advanced placement to AD graduates, some baccalaureate programs administer standardized achievement tests compiled by the NLN. Separate batteries of tests are available that measure scientific knowledge--i.e., chemistry, nutrition, anatomy etc.; or nursing knowledge, i.e., medical-surgical, maternal-child, or psychiatric nursing etc. (Katzell 1973, p. 455).

Another form of credit-by-examination is the teacher-made test. Kelly observes that the academic freedom of teachers to "choose for their courses that which they think is pertinent" is often in conflict with the open curriculum concept. Also, faculty members who feel that their course is unique and irreplaceable still exist; consequently, they are reluctant or may flatly refuse to accept transfer courses, to offer standardized or teacher-constructed examinations, or to make such examinations impossible to pass (1974, p. 2234).

Although Montag believes that students should not be forced to repeat study in an area in which they are already knowledgeable, she is skeptical about the character of both programs (AD and baccalaureate), if a number of students successfully pass challenge examinations.

> If progessional curriculums in nursing concentrate the major offerings at the upper division level, and if these offerings are in fact upper divisional and professional in content and method, few would be likely to challenge sucussfully (1971, p. 729).

Experimental Articulated Programs

Since 1970, several innovative articulated programs have come into existence. Some of these innovative approaches to a smoother transition between levels of nursing practice involve a career ladder, linking only the AD and baccalaureate programs, whereas others start with the LPN or even nurse aide. The literature has identified such curricular approaches as "sequential." Some of these programs have been selected by the NLN as pilot projects and are presently under close observation and study. Such programs have led to a change in prior institutional philosophy, which seemed to imply that AD programs were terminal and technical and could not be articulated with baccalaureate programs in nursing. Boyle describes one such program at the College of Nursing, at the University of Nebraska at Omaha:

> As of fall 1973, all entering nursing students will enroll in the two-year AD program, and upon completion, will take state boards. In the junior and senior years a new concept of baccalaureate education has been designed which will offer a core of advanced sciences and nursing courses and electives (1972, p. 672).

Boyle cites the advantages of an articulated program of this type. One is the fact that the program can be terminated at either level. Another is the character of the group at the upper-division level (junior and senior years). As this group will be comprised entirely of RN students (rather than RN and generic students), courses and experiences should be challenging, and the competition within a peer group stimulating. Finally, employers would be able to differentiate more clearly between the graduate/products of AD and baccalaureate programs (1972, p. 672). The literature reveals that at the present time, employers are confused about clear, communicable characteristics of nursing practice between graduates of the two nursing programs. In essence, then, the philosophy of this nursing faculty would indicate their conviction in the AD program as an adequate base for baccalaureate education (lower division/upper division).

Bullough would seem to support a program such as that described by Boyle. She claims that at the present time, graduates of each program are perceived as *different types* of workers, rather than *different levels*. An approach that would differentiate a beginning level of psychosocial knowledge and skills from an advanced one, as well as identify beginning and advanced technical skills, would lend itself more easily to career mobility (1972, p. 8).

CONCLUSIONS

Under our present system of nursing education, there is no structured or established pattern to provide for articulation between the AD and baccalaureate programs. Moreover, any cooperative movement would seem to run counter to each program's philosophy and long-standing tradition of independence. Today, however, social, educational, and economic issues and trends are challenging the long-standing traditional character of nursing education programs. To effectively meet the challenges which this type of movement creates, nursing programs must establish cooperative and collaborative working relationships. This type of an arrangement would seem to cancel out biases and deal more efficiently with the crux of the problem of articulation, which involves the transfer and career mobility of nursing students.

Articulation can be interpreted to mean a sequential curriculum, as well as transferrable credit. The sequential curriculum, a relatively novel concept, may encompass all levels of nursing education, from the LPN to the doctoral degree. Several programs presently in existence are LPN to ADN, or ADN to BSN. In this type of articulated curriculum, lower-division courses serve as the basis for upper-division course offerings; upper-division offerings, for graduate study. With well-defined levels of education and experience, students can progress within nursing without unnecessary duplication of previous education and experience. As such programs are new and few in number, they deserve close attention and consideration for their educational quality.

Insofar as transferable credit is concerned, tremendous inconsistencies and inequalities exist; students receive various amounts of credit or advanced standing when transferring from an AD to a baccalaureate program. In addition, the type of testing used for advanced placement varies with institutions as does the grade achievement requirement on such tests. Consequently, as the granting of credit or advanced standing is left to individual colleges and universities, the degree to which a particular student qualifies for advanced standing or credit is still arbitrary. Furthermore, as advanced placement tests measure knowledge and not performance, they are incomplete in the evaluation of nursing students' clinical skills and competencies. Effective methods which assess knowledge as well as clinical competence need to be devised.

Although such curricular designs are most desirable, they require a large investment of time and effort. With the already reported faculty shortage and the pressure for upward mobility on the part of students graduating from lower level programs swelling greater all the time, tremendous challenges and strains are placed on nurse faculties. At the same time, more large-scale major and concerted efforts must be made toward articulation of AD and baccalaureate programs. Too few articulated programs exist, and these are in isolated districts and scattered areas of the country. Unfortunately, most of the attempts to study and implement new approaches have been limited to individual institutions, without a means for attacking the basic problem of articulation between the varying kinds of preparatory schools (Lyslaught 1970, p. 115).

RECOMMENDATIONS

As the desirability of an articulated nursing education system has been recognized by appropriate national groups such as the NLN and the National Commission for the Study of Nursing and Nursing Education, and as societal trends seem to be pressuring for career mobility educational patterns (aspects of an articulated system), implementation of articulation concepts is imperative. While much has been written on the topic of articulation, there is too little evidence that it has been sufficiently put into practice. Consequently, more large scale and concerted attempts at articulation must be made. As this involves attitudes as well as procedures, it is important that philosophies reflect a concern for the changing needs of students, and their preparation for the changing needs of society. Hard-nosed, established attitudes about how a nurse should be educated must change. Educators and concerned groups must develop positive attitudes toward nontraditional practices in nursing education, so that workable plans can be developed. Rigid educational practices and policies that belong to another decade must be discarded and replaced by newer, more flexible approaches which are more democratic and realistic.

Summary Recommendations

1. Encourage the development of strategies that recognize nursing students' career mobility goals and that validate previous knowledge and experience, serving as a foundation for advanced nursing education.
2. Develop more clearly defined competencies for each level of nursing; these can then be used as a basis for transfer agreements between programs.
3. Continue to work on establishing valid and reliable methods of evaluating students' knowledge and clinical performance.
4. Institute interinstitutional faculty exchange programs and coordinate resources, i.e., teachers and facilities, to provide the most options for students. This would also seem to be more economical.
5. Utilize qualified resource persons, i.e., curriculum specialists and specialists from other related disciplines when feasible, and employ technically-prepared persons for

routine operation and supervision of laboratory equipment, etc.

6. Study, evaluate, and research pilot articulated programs in operation and encourage these programs to share information, tools, etc.

7. Develop closer working relationships with regulatory agencies, i.e., state boards of nursing, nursing associations, and accrediting agencies, to effect change.

8. Encourage state boards of nursing to allow carefully planned experimental programs and to be more flexible in time and course requirements.

9. Consider that RN licensing laws may be outmoded. (AD and BS nurses take the same state board examination.)

10. Establish agencies at the state and/or local level that would provide consistency in dealing with problems of articulation.

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COMPETENCY-BASED EDUCATION:
A DISSECTION

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The problem with competency-based education is that as a philosophy and in practice it denies the existence of magic. My argument is that magic is essential to experiencing optimism. Magic is a quality essential to the personal experience of feeling free and untrapped. It enables feelings of generosity toward others, because of feeling generous toward one's self. Magic is that condition of external reality which, in its symbolic nuances and more obvious structures, stimulates a corresponding inner feeling and cognitive state of promise. Magic speaks of a life of promise, of the open future with unexplored possibilities. It enables me to dream laughingly, because I see no arbitrary limits to what I may think of myself and to what and whom I may become. The symbols and structure of my environment are not fixed and arbitrary. I can change, and I sense fresh encounters around the next corner of my experience. These properties of magic are part of my feeling and learning, even if I am a teacher, and even if I am a student.

But precisely stated behavioral objectives with explicit achievement criteria, although yielding ease of student and teacher accountability, distort the meaning of promise and strip us of the mystery of experience. It is like Sparta telling Athens: You are too complex in your responses to life. You enjoy too many nuances of interpretation, you suggest too many shadings of what is right and what is wrong. You accept the unexpected, and when it happens you write a tragedy about it, capable of many meanings. You look for the spontaneous, even while accepting the orderly. We cannot accept your way, your vision. We do not leave life to chance. We believe in predictable, secure control over our behavior, in order to know where each step goes, day after day. That is our joy--knowing what we do, being careful to instruct our young in the right way, the best way.

It strikes me that advocates of the competency-based education movement are zealous Spartans who seem intent on persuading me that Sparta is more humanistic than Athens, that competency-based education is the promise of the future which allows students and teachers to be unfettered while being fettered. But their joy is the diminishment of my magic. They *know* that *all* people, *everywhere*, at *any* time can be analyzed into their component parts--the only thing that inhibits the process is development of a sufficiently sophisticated investigatory, data collecting, and sorting apparatus. Ultimately we will have a "googol-plex of competencies" (Schmeider 1973, p. 28). A "googol-plex"! Such frozen passion. The very sound bangs ominously in my ears. My belly turns to lead. Metallic, gigantic web, universe-wide, to capture my secret yearnings, my quirkiest impulses, my hopes for an unending this or that (even though I know this ends and so does that, often enough) and send them back in dead fragments at my feet because my response wasn't the one right response. The one correct way. Which is, I am assured by those-who-precisely-know, going to make me even more effective, and a better achiever. But how will precisely stated behavioral objectives make me feel more human and humane? By sharing in my own sequence-achievement construction, the "googol-plex" people answer, anchored down by carefully gauged objectives, between which are intervals of mini-steps contributing to achievement of intermediate steps. Which lead to large objective markers on the road to personal competency and success. And every careful step of the carefully outlined way--thus acquiring the grace termed, ease-of-measurement--I am accountable for what I have learned, and the teacher is accountable for what has been carefully calculated for me to achieve. Student-centered. Individual differences, finally honored. Integrity in learning. So they say. I dissent.

"We murder to dissect," wrote Wordsworth in his poem "The Tables Turned"; and, in his history of Western intellectual development, Randall presented the poet's lines as a song of resistance to the view of the world as a machine (1940, p. 49). Beauty lies in the totality, the unique essence of the person, the idea, the creation, which defies fragmentation, however precise. Schmeider's argument, that we do a service to the person by identifying and categorizing all the components which make one an effective teacher, is simply an advocacy for a view of life where the sum of the parts is equal to the whole person (1973, p. 24). It represents a view of life as mechanical, in which components--competency-based components--have become more meaningful than the totality of organically unified facets which together present a person's uniqueness. Contrary to the claims that competency-based education guarantees individual differences, it denies our uniqueness by asserting that each of us possesses identifiable components which can be categorized and weighed and judged separately and incrementally. Person-Centered? Humanistic? Magic? Hardly. The following definition by experts in the teaching of teachers goes to the heart of the problem.

> Competency-based teacher education requires the instructor to specify his objectives in advance, list them in terms of what the learner will be able to do upon completion, and tailor instruction to those objectives. Further, objectives should be relevant to the tasks a teacher performs (Hollis and Houston 1973, p. 9).

My experience is an active, continual consequencing of interaction between my inner and outer world (Dewey 1938). This transaction between self and the environment is dynamic, not static, as Hollis and Houston perceived it to be in their definition. When I allow significant others to specify objectives for me, which I must perform to their standards, I submit to the inhibition of my own style, my own impulses, as I encounter the tasks to be performed. I learn to deny my uniqueness in favor of standard components into which others have dissected me. I have learned to deny my self as mystery, resistant to spiritual surgery. My parts then become more than me--I have lost me in the fragmentation, the dissection of my experience into additive parts, isolated for testing, weighing, polishing--each to be joined together to form a model, a standard. My style, my impulses, my reflections and sifting/sorting of prior experiencings as I encounter new experiences become cramped, suppressed, predictable. I no longer will possess the quality of spontaneity in embracing tasks as experiences and *transforming* them into new experiences. Synthesis of interaction between myself and another, myself and ideas, myself and all stimuli with which I am free to interact, become, under the mechanistic model of behavior imposed on me via labled parts and criteria, less possible.

More precisely, the synthesizing process, in which experience (a) encountering idea, or problem, or activity (b) becomes ab, and not a + b, atrophies for those who may have possessed it, or never to be experienced for those who were not capable of synthesizing experience. Teachers who teach within the behavioral framework of experience, (a) plus idea (b) amounts to (a) + (b), are actually teaching their students a lifestyle and the approved way to perceive the world. The student learns matters far more important than the substantive material broken down into competencies and objectives to achieve. The student learns to trust himself only so far as the task's completion, a task specifically prescribed as the one to achieve, in order to proceed to subsequent tasks. Each task accomplished represents an orderly, sequential, incremental procedure. The procedure--the experience of learning--is methodical, certain, and secure. The student learns to learn one step at a time, to obtain symbolic and concrete rewards of approval by overall authority represented by the teacher. Obedience, caution, methodical task sequencing are the real subject matter to be learned, the "noise" of implication, values, incentives, constraints which Jules Henry describes as pervading the style of teaching and classroom environment for any subject (1965, p. 289).

To learn that the task just completed--the one best task--is a sequence to another in an approved series of sequence is to learn that knowledge is acquired as incremental bits. It is to learn that one's experience is additive, predictable. It is to learn never to risk conceptualizing so that one's encounter (a) with knowledge bit (b) can result in something totally and organically different because of the transformation of (a) + (b) into ab--the unique fusion of components into an essentially different entity. Not to learn the synthesizing process is to learn not to accept one's own capacity to transform reality as one encounters it. If one has not learned of human capacities to modify reality except in incremental, mechanistic experiences, one never learns the essential relationships among the discrete parts which submit to newer fresher ways of perceiving and understanding a problem. Indeed, one who lacks this understanding of his own and human capacities, rarely perceives problems, or ramifications or issues. A passive, methodical, acquisitive learning oriented person can only perceive literally. Innuendoes, shadings, and nuances of meaning require active inquiry. Inquiry rests upon acceptance of self as capable of confronting a task or idea, or knowledge bit, and imposing one's self on its properties, discovering meanings, implications, ramifications and connections that did not exist until one acted upon the object. A person who is only the sum of his component parts, who has learned that each part successfully mastered is the important stuff of life, has learned that he--his inner world transacting with the outer world--has a passive, reflexive inner world, that accommodation to the external is expected, and that there is one best accommodation. For that person, parts and task completion is important. The concept of unique man, who is a presence and an energy completely different than his divisible parts, cannot exist for such a person. Man without a unique presence lacks inspiration (the ability to transform self in relation to world). He lacks magic (the capacity to feel wonder over the yet-to-be-experienced while confident he can transform and be transformed). He certainly is not the center of the world. He can therefore not be claimed as humanistic by those who fragment him into competent parts. He may be, and probably is, "nice." As Eleanor Leacock found in her anthropological investigations in New York's inner-city elementary schools: "The real demand of the children is that they be nice" (1969, p. 48). Competency-based education may be the rationalized technique complete with supporting apparatus, to formally produce via public education, the person divorced from his self--the harmless, task-achievement, oriented, safe-thinking, obedient, methodical, nice person.

Superficially, advocates of competency-based education seem to be progressive when they apply their techniques toward so called flexible curriculum arrangements. Is it not more liberal to allow the student to arrive at competencies arranged in advance, any way he sees fit, thereby freeing him from traditional space and time requirements? To begin with, I have yet to see a solitary generalized competency in the employ of competencies advocates. Each major competency rides herd on several subcompetencies, themselves carefully prescribed, and together adding up to the main task, among a family of main tasks with little specific subtasks trailing behind. To allow a student to pursue a major goal, using and developing his skills as he generates his own questions, changes his pace, alters directions, seeks resources (including teachers, books, research data) and transforms his discoveries into new questions is anathema to competencies visionaries. The student would not be sufficiently linear in the acquisition of skills. It would be too difficult to measure a student's progress. Instead of completing in order, many mini-objectives, each purposefully made susceptible to evaluation and measurement (accountability), the student skips and darts about according to *his* needs and insights, leaping to this particular, synthesizing it into a loose general principle, incorporating other principles into further internal syntheses, and always unpredictably using the teacher as a resource, as a question maker to stimulate him toward further experiences. Every experience thereby functions as a growth effect on new experiences (Dewey 1938). When a human being loses himself in his activities, becomes so immersed and involved, as if he were at play, he has fused play into work. He no longer compartmentalizes spontaneity and expression of self as a play activity on the one hand, and the job as functions to be performed for others according to their standards, on the other (Aronowitz 1973, pp. 61-62). Students who are "given" the freedom to prepare for and master mini-objectives as they sequentially progress to larger competencies, or adjacent ones, are really not free in the exact sense, nor can they be considered engaged in a personal extension of their inquiring selves. Externalized goals toward which students learn to cautiously move, exist within a shrunken cognitive universe, where psychological spatial rigidities are substituted for physical spatial ones. To be controlled by detailed task-mastery steps without being compelled to attend class for specified times at mandatory intervals is to be granted the illusion of freedom. In the first place, the illusion is invidious, in that the student as the object of the illusion-myth learns to accept behavior control and timidity as the reality definition of freedom. In the second place, the teacher as the agent of institutionally inspired illusions and myth creations, avoids the personal involvement of synthesizing his own knowledge with the student's questing. Only through the teacher-student exchange of questions for explicit purposes of creating newer problems and newer foci (which in living analogy to growth, give birth to newer forms out of synthesizing past and present in open, ongoing dialectic) is the teacher engaged in creating experiences stimulating free examinations unhindered and uncontrolled by prior fixed specified goals. Task orientations of the mind, impersonally implemented, reflect teacher and, by acquiescence or preselection, student world views contrary to holistic open-ended, progressive life orientations. The world of the former is reducible to specifics bent toward man's mastery of it. Specific task mastery becomes the important feature of man, his shining hour reduced to a scheduled competency. Permission to engage in this lifestyle is not progressive and is not freedom, curriculum designations notwithstanding.

Historically, many and far more authentic approaches to progressive education predated the present preoccupation with competency-based education. Labeling the latter "progressive" has been demonstrated, I hope, to be clearly invalid. By contrast, A. S. Neill had, as basic themes for his Summerhill school, freedom from ego-punishing adult or expert imposition and devotion to the child as a total person (Neill, 1960).

> To give freedom is to allow the child to live his own life. Thus expressed, it seems simple. Only our disastrous habit of teaching and molding and lecturing and coercing renders us incapable of realizing the simplicity of true freedom (1960, p. 113).

Students made to obey directives on what to think, and to learn that the narrow focus and evaluated level of what they think are approved as representative of the their worth, are not learning freedom. They are learning obedience. They are learning that exclusive focus on given particulars is considered entirely reflective of who they are--the isolated task and its accomplishment is the significant "you." Totality of the person fails to exist as a concept, is not even in the teacher's nor learner's language. It is not part of the curriculum. Discrete bits of knowledge endowed with sacred virtue was anathema to Neill. They simply represented murder of a totality--the free child--by dissection.

Bensalem College was a relatively short-lived, but brilliant, experiment in college liberated educational philosophy. It encompassed curriculum freed of time and space constraints and communicated faith in students and participating faculty to help each other work out their cognitive and affective destinies (Eisenstein, 1968). For the life of the college (late 1960's to early 1970's), students were literally free to seek their own focus, using faculty as synthesizers, and all formal and informal resources within the New York City region and beyond, with which to interact, integrate, and grow in the direction of their questing. There were no grades and no behavioral objectives to abort the free inner-directed movement of students and resource faculty. There were simply people, trying to be whole, each accepted as a totality. Trepidation over the unexplored notion of curriculum anarchy diminished over the years under the therapy of open expression of fears, frankly encountered and faithfully examined. With no absolute solutions in mind. For Bensalem people, competency-based education would be a lack of faith in the human potential for doing, growing, being. For the parent, Fordham University, which ultimately aborted the experiment, fear of the consequences of seemingly uncontrolled human behavior was too strong to justify the small (about 60 students, eight faculty) experimental college's continuation. Until that decision, study was play.

Time, play, and magic fuse into a quality of experience foreign to that manufactured by competency-based education experts. A condition essential to creating and stimulating experiences, which lead to further growth experiences, is the freedom to think around, above, and beyond manageable, accountable limits and fixed purposes for learning. If I fear the anarchy of the mind, I seek safe avenues of thought with ideas and problems manageable by technique and specified procedure. The world, the universe, is made small by using the image of science as an excuse to construct an orderly, predictable scale of human response. Employing a pale representation of scientific purpose, which is discovery, and emphasizing control and compulsive meticulousness concerning human behavior in the name of science does nothing but narrow the universe for all who operate as the new, safe religion's advocates, and all who must follow and master its assiduously prescribed directions. Time, for the competencies world, belongs to prescribers and proscribers and inheres in the mandates and gateways of objectives so carefully plotted. In a true sense, time does not ever belong to the prescriber/proscriber (teacher of and to competencies). Time is external to this teacher--he is obedient to its presence in sequencing, which in itself determines time's externality, its removal from control of the person learning according to the dictates of what must first be accomplished. To be told precisely what to do, to the exclusion of spontaneous explorations, removes one from control over one's own time. An implicit philosophy of alienation, and its acceptance as a given quality of the human world, is, in this manner, transmitted in the exercise of competency-based education. To plunge into experience--to integrate activity with feelings of self-release and belief in the unexpected turns and directions discovery suggests to the exploring self--is to plunge into a life of play, of promise. Encountering the fact, developing the skill, examining the idea are dynamic acts between the self and the object--acts which require the release of self to engage the object and transform it by and with the self into a new facet of experience. The interplay between released self and object is fluid. It is a process, a verb, a continuous, changing statement of life. There is no room for frozen time in this involvement of the self with living. Someone else's externalized, imposed time has nothing to do with the human freely involved in a total experience which creates and recreates experiences. The ebb and flow of interacting continues along experiencing lanes that open to directions inherent in the synthesizing process of self and object. Such learning, where time inheres in the process, is part of the unity of one's involvement with one's whole being. There is magic in such living and being. A person can only expand his knowledge of self and the world within these free, totally involved experiences.

The teacher's role is to deny the teacher's role. Denial of incremental, time-phased, achievement-oriented, subject-dissected education recreates the teacher. The teacher becomes capable of renewing and enlarging life perspectives through perceiving himself/herself as a synthesizing force dedicated to transformation of the student who was into the student who will always become. The teacher becomes the question maker, the one who perceives living and the world in terms of the transformation of who and what is, into vibrant potentials for further syntheses. The teacher perceives the student and the world in terms of promise, of a future always enriched by the transforming present, always becoming. The teacher becomes the person who insists the world, the universe, is unlimited. Man cannot be staked to barren cognitive grounds at respectable intervals planned in advance, if he is to see his own unlimited potential and find satisfaction in the freedom of others to seek their own potentials. Without learning to transform himself and reality, the teacher as person lowers his sights, reduces his world, reduces himself. In so doing, the teacher becomes less of a person and more of a role. He becomes a partial entity. He is reduced to a role--the role of teacher. Then for him and his students, there is no magic. Just competencies.

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EVALUATION OF THE CONFERENCE

Edgar I. Farmer
Graduate Assistant
Vocational Education
The Pennsylvania State University

The Seventh Annual Pennsylvania Conference on Postsecondary Occupational Education was held on October 1 and 2, 1975. The theme of the Conference for this year was "Articulation." The objectives of the conference were:

A. to provide authoritative presentations concerning articulation among and between Pennsylvania institutions which are involved in occupational education;

B. to provide an opportunity for educators concerned with occupational education to exchange ideas and viewpoints on subjects associated with the broad topic of articulation, particularly:

    1. articulation in an urban setting

    2. articulation through community services

    3. the role of follow-up studies in articulation;

C. to provide information to the conference participants and other occupational educators that would assist them to initiate, evaluate, and rejuvenate articulation efforts in their particular institutional setting;

D. to continue with the series of cooperative ventures between The Pennsylvania State University and other Pennsylvania institutions that are directed toward making contributions to the overall improvement of occupational education.

In order to effectively evaluate the extent to which the achieved objectives set down by its planners, a survey was developed. The questionnaire was mailed to the respondents on October 14, 1975.

All of the participants, except those affiliated with the University Park campus of The Pennsylvania State University, received the questionnaire. Of the 61 questionnaires sent, 46 were returned, a total of 75.4 percent. A letter, accompanied by a second copy of the survey instrument was mailed to all participants on October 24. The return responses from the follow-up were increased by 49 or 80.3 percent (Appendix A).

ATTENDANCE

The attendance at the conference reached its highest point (with 68 persons), during the presentation, "Is Articulation for Real?" This particular presentation exceeded the total number of registered participants by 11.4 percent, because of invited guests at the dinner function.

Sixty-one persons registered for the conference. They came from: Community Colleges (48%); Area Vocational-Technical School (28%); Private Junior Colleges (12.0%); The Pennsylvania Department of Education (7.0%); State Universities and Technical Institutes (3.0%); and other (2.0%) (see Table 1).

EXCHANGE OF IDEAS AND VIEWPOINTS

The opportunity to exchange ideas and viewpoints concerning articulation in occupational education was one of the major objectives of the conference. The conference participants were asked to rate each presentation on a five-point descending scale (1 = very much and 5 = little). The presentation, "Articulation in an Urban Setting," was rated by the respondents as providing them with the greatest opportunity to exchange ideas and viewpoints on articulation.

Table 2 indicates the mean score and the rating for each talk.

THEME OF THE CONFERENCE

The presentation, "Articulation in an Urban Setting," was considered by the conference participants who returned the questionnaire as the presentation that best followed the theme of the conference--"Articulation." The mean score, 1.67, is closest to the "much" position. The scores for the other presentations regarding this objective ranged from 1.91 to 2.97, with the mean being 2.51. The total results are presented in Table 3.

AMOUNT OF INFORMATION PROVIDED

Another objective of the conference had to do with the amount of information provided to the participants. The presentation, "Articulation in an Urban Setting," also received the highest rating, with a mean score of 1.69 (close to the "good" rating). The ratings of the other presentations ranged from 2.28 to 3.18, with a mean of 2.52. Table 4 indicates the results of each presentation.

OVERALL RATING OF THE PRESENTATIONS

The participants were also asked to rate each presentation on an overall basis. "Articulation in an Urban Setting" was rated highest (1.61), and "Is Articulation for Real?" was a close second (with a mean rating of 1.89). The ratings of the other presentations ranged from 2.26 (good) to 3.00 (fair). The results are further described in Table 5.

TOPICS FOR FUTURE CONFERENCES

In addition to rating the presentations in the manner described above, the conference participants were also asked to indicate, from a list of five topics, two choices they most preferred as themes for future conferences. They were also encouraged to offer write-in suggestions for further conference themes.

"Staff and Faculty Development in Postsecondary Occupational Education" was a strong first choice, followed by "Occupational Education for the Chronically Unemployed," and "Building a Relationship between CETA and Postsecondary Occupational Education." The ratings for all of the themes are displayed in Table 6.

CONCLUSIONS

The average attendance at the presentation, based on the 61 registered participants, was 91 percent. The average headcount per session was 55.6 persons attending each session.

Although the Seventh Annual Conference attendance was lower than recent years, most of the conference participants rate it in a relatively positive manner, regarding the achievement of the conference objectives.

TABLE 1

ATTENDANCE AT CONFERENCE PRESENTATIONS

Presentation	%	Rank	Headcount
The Role of Competency-Based Instruction in Teacher Preparation	95.0	3	58
Articulation Through Community Services	91.8	4	56
Is Articulation for Real	100+	1	68
The Role of Follow-up Studies in Articulation	67.2	7	41
Articulation--Continued Advancement in Learning: A Nonexpert's View	88.5	5	54
Articulation in an Urban Setting	96.7	2	59
Interinstitutional Efforts Meeting Postsecondary Occupational Education Needs	88.5	5	54

TABLE 2

EXCHANGE OF IDEAS AND VIEWPOINTS

Presentation	Mean Score	Rank
The Role of Competency-Based Instruction in Teacher Preparation	2.85	5
Articulation Through Community Services	2.28	2
Is Articulation for Real	2.34	3
The Role of Follow-up Studies in Articulation	2.46	4
Articulation--Continued Advancement in Learning: A Nonexpert's View	2.91	6
Articulation in An Urban Setting	1.77	1
Interinstitutional Efforts in Meeting Postsecondary Occupational Education Needs	2.97	7

TABLE 3

ADHERENCE OF PRESENTATIONS
TO CONFERENCE THEME

Presentation	Mean Score	Rank
The Role of Competency-Based Instruction in Teacher Preparation	2.75	5
Articulation Through Community Services	2.12	3
Is Articulation for Real	1.91	2
The Role of Follow-up Studies in Articulation	2.24	4
Articulation--Continued Advancement in Learning: A Nonexpert's View	2.79	6
Articulation in an Urban Setting	1.67	1
Interinstitutional Efforts in Meeting Postsecondary Occupational Education Needs	2.97	7

TABLE 4

AMOUNT OF INFORMATION PROVIDED BY PRESENTATIONS

Presentation	Mean Score	Rank
The Role of Competency-Based Instruction in Teacher Preparation	2.53	4
Articulation Through Community Services	2.38	3
Is Articulation for Real	2.28	2
The Role of Follow-up Studies in Articulation	2.63	5
Articulation--Continued Advancement in Learning: A Nonexpert's View	3.18	7
Articulation in an Urban Setting	1.69	1
Interinstitutional Efforts in Meeting Postsecondary Occupational Education Needs	2.97	6

TABLE 5

OVERALL RATING OF PRESENTATIONS

Presentation	Mean Score	Rank
The Role of Competency-Based Instruction in Teacher Preparation	2.36	5
Articulation Through Community Services	2.26	3
Is Articulation for Real	1.89	2
The Role of Follow-up Studies in Articulation	2.34	4
Articulation--Continued Advancement in Learning: A Nonexpert's View	2.79	6
Articulation in an Urban Setting	1.61	1
Interinstitutional Efforts in Meeting Postsecondary Occupational Education Needs	3.00	7

TABLE 6

SUGGESTED TOPICS FOR FUTURE CONFERENCES

Title	Frequency
The Relationship of Unionism and Collective Bargaining in Postsecondary Occupational Education	12
Building Relationships Between CETA and Postsecondary Occupational Education	19
Staff and Faculty Development in Postsecondary Occupational Education	34
Occupational Education for the Chronically Unemployed	19
Philosophical and Historical Forces in Postsecondary Occupational Education	4
Articulation: A Long Way to Go	1
Program Planning and Development	1
Evaluation of Occupational Programs	1
Recognition of Life and Employment Experiences as Credit Toward Degree Requirements	1
Models of Postsecondary Vocational Schools and Community Colleges Working Successfully on Integrated Programs	1
Highlight of New or Pending Federal Legislation for Its Possible Effects on Postsecondary Occupational Education	1

TABLE 6 (continued)

Title	Frequency
Relationship in Setting up a Postsecondary Program Between AVTS and the Community College	1
Maximizing Use of Available Facilities, Programs, and Personnel	1
Community-Based Vocational Education	1
Students, Staff, and Faculty Evaluation to Improve and Modify Postsecondary Occupational Course Offerings: An Approach to Accountability	1

APPENDIX A

CONFERENCE EVALUATION QUESTIONNAIRE

THE PENNSYLVANIA STATE UNIVERSITY
247 CHAMBERS BUILDING
UNIVERSITY PARK, PENNSYLVANIA 16802

College of Education
Department of Vocational Education

October 14, 1975

Dear Conference Participant:

One of the final concerns we have relative to the Seventh Annual Pennsylvania Conference on Postsecondary Occupational Education is the extent to which the conference achieved its objectives. We are requesting every person registered at this event to respond to the items listed in the following pages.

Enclosed is a short conference evaluation form. Your answer for each question should be made as indicated. If you have any additional comments, please feel free to write them on the reverse side of either page of the questionnaire. Please return the questionnaire in the enclosed self-addressed, pre-paid envelope.

Your assistance and suggestions will undoubtedly help us in planning for future conferences. The results of the evaluation will also be included in the forthcoming monograph. Thank you for your cooperation.

Sincerely,

Angelo C. Gilli, Sr.
Professor of Vocational
and Higher Education

ACG:ecj

Enclosure

As participants in the Seventh Annual Pennsylvania Conference on Postsecondary Occupational Education, we are asking for your suggestions for possible topics for next year's conference theme. In the checklist below, please indicate your two (*first* and *second)* most preferred topics of interest. NOTE: If you have suggestions other than those listed, please write them in the space provided below in number six (6).

( ) 1. The Relationship of Unionism and Collective Bargaining in Postsecondary Occupational Education.

( ) 2. Building Relationship Between CETA and Postsecondary Occupational Education.

( ) 3. Staff and Faculty Development in Postsecondary Occupational Education.

( ) 4. Occupational Education for the Chronically Unemployed.

( ) 5. Philosophical and Historical Forces in Postsecondary Occupational Education.

( ) 6. ______________________________

____

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____

Major papers were presented at the conference by Cotrell, Poirier, Bender, Mann, Hermanowicz, Hirt, and Prater. Please give an overall rating of each of these presentations using the scale: 1 = very good; 2 = good; 3 = fair; 4 = poor; and 5 = very poor.

Circle Choice

1 2 3 4 5	Dr. Calvin Cotrell	"The Role of Competency-Based Instruction in Teacher Preparation"
1 2 3 4 5	Dr. Robert J. Poirier	"Articulation Through Community Services"
1 2 3 4 5	Dr. Louis Bender	"Is Articulation for Real"
1 2 3 4 5	Mr. Edward C. Mann	"The Role of Follow-up Studies in Articulation"
1 2 3 4 5	Dean Henry Hermanowicz	"Articulation--Continued Advancement in Learning: A Nonexpert's View"
1 2 3 4 5	Dr. John B. Hirt	"Articulation in an Urban Setting"
1 2 3 4 5	Dr. Robert Prater	"Interinstitutional Efforts in Meeting Postsecondary Occupational Education Needs"

PRESENTATION	Which events did you attend? Please check the boxes that apply	To what extent did the exchange of ideas and viewpoints on articulation take place? Please use the scale 1 = very much; 2 = much; 3 = some; 4 = little; 5 = very little.	Rate the presentations of the conference on degree to which the theme "Articulation" was followed using 1 = very much; 2 = much; 3 = some; 4 = little; 5 = very little.	Rate all presentations as to amount of information provided to you, using scale 1 = very much; 2 = much; 3 = some; 4 = little; 5 = very little
"The Role of Competency-Based Instruction in Teacher Preparation" (Dr. Calvin Cotrell)	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
"Articulation Through Community Services" (Dr. Robert J. Poirier)	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
"Is Articulation for Real" (Dr. Louis Bender)	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
"The Role of Follow-up Studies in Articulation" (Mr. Edward C. Mann)	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
"Articulation--Continued Advancement in Learning: A Non-Expert's View" (Dean Henry Hermanowicz)[a]	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
"Articulation in An Urban Setting" (Dr. John B. Hirt)	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
"Interinstitutional Efforts in Meeting Postsecondary Occupational Education Needs" (Dr. Robert Prater)	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Coffee Breaks	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Meals	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Cash Bar Social Hour	☐	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

[a] Dean Hermanowicz's paper is not included in this volume of proceedings.

APPENDIX B

CONFERENCE FORMAT AND SPEAKERS

SEVENTH ANNUAL CONFERENCE
ON POSTSECONDARY OCCUPATIONAL EDUCATION

October 1-2, 1975
J. Orvis Keller Conference Center

Theme: "Articulation"

PROGRAM

Wednesday, October 1, 1975

10:30 a.m. Registration -- Lobby, Keller Building

11:30 a.m. Lunch -- Multi-purpose Room, Ground Floor, Keller Building

Host: Robert Sheppard
Division of Two-Year Programs
Department of Education

Speaker: Dean Henry Hermanowicz
College of Education
The Pennsylvania State University

Topic: Articulation of Occupational Education:
A Non-Expert's View

1:30 Session I

Chairperson: Dr. Donald Bergerstock
Director of Business & Computer Science
Williamsport Area Community College

Speaker: Dr. Robert Prater, Dean
College of Technology
Texas Southern University

Topic: Inter-institutional Efforts in Meeting
Postsecondary Occupational Education Needs

2:30 Coffee Break -- Multi-purpose Room, Keller Building

3:00 Session II

Chairperson: Dr. Lewis Fibel
Vice-President & Dean of Faculty
Sullivan County Community College

Speaker: Dr. John B. Hirt, President
Community College of Allegheny County

Topic: Articulation in an Urban Setting

5:30 Cash Bar & Social -- Nittany Lion Inn, Firside Lounge

6:30 Dinner -- Nittany Lion Inn, Penn State Room

Host: James P. Murphy, Chief
Division of Two-Year Programs
Department of Education

Speaker: Dr. Louis Bender
Director & Professor of Higher Education
The Florida State University

Topic: Is Articulation for Real?

Thursday, October 2, 1975

8:00 am Breakfast, Buffet -- Nittany Lion Inn, Penn State Room

Host: Robert Sheppard
Division of Two-Year Programs
Department of Education

Speaker: Dr. Robert J. Poirier
Assistant Dean of Community Service
South Campus, Community College of
Allegheny County

Topic: Articulation Through Community Services

9:15 am Session III

Chairperson: Daniel Clark, Director
Altoona Area Vocational Technical School

Speaker: Dr. Calvin Cotrell, Chairman
Division of Vocational Education
Temple University

Topic: The Role of Competency-Based Instruction
in Teacher Preparation

10:15 Coffee Break -- Multi-purpose Room, Keller Building

10:45 am Session IV

Chairperson: Dr. Mary Norman
Executive Dean & Vice-President
Community College of Allegheny County
South Campus

Speaker: Edward C. Mann
Assistant Professor
State Technical Institute at Memphis

Topic: The Role of Follow-up Studies in Articulation

Speaker: Dr. Angelo C. Gilli, Sr.
Professor of Vocational & Higher Education
The Pennsylvania State University

Topic: Summation

12:30 Lunch -- Multi-purpose Room - Keller Building

APPENDIX C

REGISTRATION LIST

7TH ANNUAL POSTSECONDARY OCCUPATIONAL EDUCATION CONFERENCE

October 1-2, 1975

The Pennsylvania State University
University Park, Pennsylvania

REGISTRATION LIST

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APPENDIX D

THE CONFERENCE ADVISORY COMMITTEE

ADVISORY COMMITTEE

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Mr. Bart A. Milano, Central Pennsylvania Business School,

Dr. Byron Myers, Luzerne County Community College, Nanticoke, Pa. 18634

Mr. James Tule (A.V.T.S.), Williamsport Community College, W. 3rd
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CENTER FOR THE STUDY OF HIGHER EDUCATION

THE PENNSYLVANIA STATE UNIVERSITY

The Center for the Study of Higher Education was established in January 1969 to study higher education as an area of scholarly inquiry and research. Dr. G. Lester Anderson, its director, is aided by a staff of twenty, including five full-time researchers and a cadre of advanced graduate students and supporting staff.

The Center's studies are designed to be relevant not only to the University and the Commonwealth of Pennsylvania, but also to colleges and universities throughout the nation. The immediate focus of the Center's research falls into the broad areas of governance, graduate and professional education, and occupational programs in two-year colleges.

Research reports, monographs, and position papers prepared by staff members of the Center can be obtained on limited basis. Inquires should be addressed to the Center for the Study of Higher Education, 101 Rackley Building, The Pennsylvania State University, University Park, Pennsylvania, 16802.

SELECTED PUBLICATIONS AVAILABLE FROM THE CENTER FOR THE STUDY OF HIGHER EDUCATION

Monographs

Faculty Voting Behavior in the Temple University Collective Bargaining Elections, Kenneth P. Mortimer and Naomi V. Ross, with the assistance of Michael E. Shorr and Cheryl Toronyi, April 1975.

CUPIR: Cooperative Utilization of Private Institutional Resources: A Multifaceted Thrust for the Private Junior Colleges, S.V. Martorana, Eileen P. Kuhns, Richard M. Witter, and Alan J. Sturtz, October 1974 (jointly with the American Association of Community and Junior Colleges).

Innovative Programs in Education for the Professions, Larry L. Leslie, June 1974.

Insights into Higher Education: Selected Writings of CSHE, 1969-73, Vol. III, Curriculum, Graduate and Professional Education, Finance, Winter 1974.

Insights into Higher Education: Selected Writings of CSHE, 1969-73, Vol. II, Community College and Postsecondary Occupational Education, Winter 1974.

Insights into Higher Education: Selected Writings of CSHE, 1969-73, Vol. I, Governance, Winter 1974.

Anatomy of a Collective Bargaining Election in Pennsylvania's State-Owned Colleges, G. Gregory Lozier and Kenneth P. Mortimer, February 1974.

Variability in Faculty Perception of the Legitimacy of Decision Making at Nine Pennsylvania Institutions, David W. Leslie, November 1973.

Human Services Occupations in the Two-Year College: A Handbook, Theodore E. Kiffer and Martha Burns, May 1972.

Institutional Self-Study at The Pennsylvania State University, Kenneth P. Mortimer and David W. Leslie (eds.), December 1970.

Numbered Reports

The Higher Education Faculty of Pennsylvania: Selected Characteristics, Larry L. Leslie and James Creasy, July 1974, Report No. 24.

The Comm-Bacc Study: Postbaccalaureate Activities of Degree R-cipients from Pennsylvania Institutions 1971-72, William Toombs, August 1973, Report No. 23.

Students and Unions, Neil S. Bucklew, July 1973, Report No. 22.

Compensatory Education in Two-Year Colleges, James L. Morrison and Reynolds Ferrante, April 1973, Report No. 21.

Pennsylvania's "State-Owned" Institutions: Some Dimensions of Degree Output, William Toombs and Stephen D. Millman, February 1973, Report No. 20.

The Trend Toward Government Financing of Higher Education Through Students: Can the Market Model be Applied? Larry L. Leslie, January 1973, Report No. 19. (Out of print.)

The Rationale for Various Plans for Funding American Higher Education, Larry L. Leslie, June 1972, Report No. 18.

Collective Bargaining: Implications for Governance, Kenneth P. Mortimer and G. Gregory Lozier, July 1972, Report No. 17.

Productivity and the Academy: The Current Condition, William Toombs, May 1972, Report No. 16. (Out of print.)

Exceptional Graduate Admissions at The Pennsylvania State University, Manuel G. Gunne and Larry L. Leslie, March 1972, Report No. 15.

The Quality of Graduate Studies: Pennsylvania and Selected States, Stephen D. Millman and William Toombs, February 1972, Report No. 14.

Reports 1-13 out of print.

Conference Reports

Proceedings: The Conference on Questions and Issues in Planning Community College Staff Development Programs, July 1-3, 1974, James O. Hammons (ed.), June 1975.

Sicth Annual Pennsylvania Conference on Postsecondary Occupational Education: Continuing and Adult Education in Vocational Education, Angelo C. Gilli, Sr. (ed.), June 1975.

State-Local Agency and Community College Cooperation for Community Improvement: A Conference of State and Local Officials in the Middle Atlantic States, S.V. Martorana and James O. Hammons (eds.), December 1974.

The Fifth Annual Pennsylvania Conference on Postsecondary Occupational Education, Angelo C. Gilli (ed.), June 1974.

The Fourth Annual Pennsylvania Conference on Postsecondary Occupational Education, Angelo C. Gilli (ed.), August 1973.

Bibliographies

Community College Staff Development: An Annotated Bibliography, Terry H. Wallace, April 1975.

The University and the Arts: A Preliminary Annotated Bibliography, Ann Kieffer Bragg, May 1974.

Selected Bibliography in Higher Education, September 1969; revised April 1972; revised August 1974.

Occasional Papers

A Case for Low Tuition, Larry L. Leslie, November 1974.

Journals of Education for the Professions: A Preliminary Study, Ann Kieffer Bragg and G. Lester Anderson, May 1974.

Collective Bargaining in Pennsylvania: A Summary of Collective Bargaining Agreements, Ralph L. Boyers in collaboration with Robert E. Sweitzer, August 1973.

Community College Teacher Preparation Programs in the U.S.: A Bibliography with Introductory Notes, Naomi V. Ross, August 1972.

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